THE

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AND

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ORIGINAL COMMUNICATIONS.

Statistics of Cases of Miasmatic Fever treated in 1846. By GEORGE L. UPSHUR, M. D., of Norfolk, Virginia.

During the past year, 105 cases of miasmatic fever came under my care. Of these, 83 were Intermittent, and 22 Remittent. Of the intermittent, 1 was quartan, 15 tertian, 62 quotidian, and 5 masked. Of the masked, one took the form of neuralgia, and four simulated hysteria.

The treatment chiefly employed was the sulphate of quinine, administered in large doses, without regard to the stage of the disease. In one case—a quotidian—occurring in a youth aged 16, of sanguineous, excitable temperament, I adminisiered 15 grains just as the cold stage was passing off. All the symptoms were ameliorated; the hot stage lasted but one hour, and the patient had no return of the disease.

In 25 cases, I gave 30 grains in five hours, during the height of the febrile stage. The pulse was *lessened in force and frequency* in every instance under this treatment, and the paroxysm cut short by the speedy appearance of perspiration. In only one of these cases was the remedy preceded by other treatment. The exception was the case of an exceedingly robust man, in whom there existed, even in his ordinary health, a strong tendency of blood to the head. I bled him to twenty ounces before administering the quinine. He returned to his work (that of a baker,) forty-eight hours afterwards, and had no return of the fever

during the season. He told me that for several years past he had not escaped an attack of bilious fever in the autumn, and that he was usually kept in his bed by it for three weks. Said that he had taken the quinine before, but not while the "fever was on."

In one case, the patient was partially comatose during the first paroxysm. This condition was relieved, in a measure, by a cathartic of calomel and aloes. Three hours before the second chill was expected, I administered 25 grains of quinine, and followed this by 15 grains more two hours afterwards. The patient missed the paroxysm and went to work the next day.

In 14 cases there was a recurrence of the disease. The recurrence in ten of these, however, could be positively traced to a second exposure to the causes of the affection.

The masked forms of the disease yielded readily to the quinine treatment. One of the cases which simulated hysteria was remarkably severe in its character, the patient being seized every afternoon with violent convulsions, accompanied by flushed face and considerable excitement of the circulation. She was treated at first by active purgation, and vesicants to the nucha, with only slight abatement in the intensity of the paroxysm. The regularity with which the attacks came, coupled with the fact that the patient resided in a part of the city where intermittent fever was prevailing, suggested the employment of quinine. She commenced early in the morning with five grains every hour, and took thirty grains. The paroxysm was much milder in the evening, and did not recur at all on the next day. She remained well for seven days, when she was again attacked as in the first instance, and again relieved by the same treatment. She subsequently had a third attack which was cured in the same manner. Her catamenia had been interrupted for six months previous to her sickness, and did not return until six weeks after the last attack.

I was not called to a single case of remittent fever at the beginning of the disease. In one case the patient had been ill *eleven* days without any treatment whatever; she was much emaciated, and had suffered from diarrhœa for six days. I gave her a table-spoonful of the following mixture every hour:

℞.	Quiniæ Sulph.	ʒss.
	Morph. Sulph.	gr. ss.
	Aquæ	f. ʒiij.

M.

In the course of five or six hours she perspired freely, fell into a quiet sleep, and in two days after was entirely free from disease. This was the sole treatment of the case, except the tinct. chlorid. ferri, which was given for ten days after convalescence was established.

The other cases were managed after the same manner—the large doses of quinine being preceded by a simple cathartic of jalap and bitartrate of potassa, in those cases only where there was great torpor of the bowels.

Not one of the 105 cases died, and all together did not take a drachm of calomel, or other preparation of mercury.

I observed unpleasant symptoms in only three cases, where they seemed to be at all dependent upon the large doses of quinine.

1. A delicate, nervous female, aged 36, was ordered 5 grains every hour, for a second attack of quotidian intermittent. When she had taken 20 grains, she became suddenly nauseated and vomited up three mouthfuls of scarlet blood. This occurred in the morning, and the chill was expected late in the afternoon. The medicine was suspended immediately, and she missed the paroxysm, and recovered without any other untoward symptom. She was treated with quinine for the first attack and also for a third, without any such effect being produced. The hæmatemesis was not vicarious of the menstrual discharge, as the catamenia had not been interrupted.

2. In this case the quinine vomited the patient like full doses of tartar emetic. She took twenty grains in five grain doses in solution, combined with spt. æth. nit. There was no gastric derangement prior to the exhibition of the medicine.

3. In the third case the patient, a female aged 40, who had but recently recovered from a very severe attack of *lichen agrius*, was rendered deaf, or nearly so, for ten days, by taking forty grains of quinine in eight hours. The intermittent, a tertian, was permanently cured.

I was never deterred from giving the quinine by the existence of diarrhœa, irritability of the stomach, or headache, provided the case was urgent, and it was absolutely necessary to put an immediate stop to the paroxysms. In cases of great torpor of the bowels, if there was time to spare, I preferred to begin the treatment by purging freely, because the quinine is not readily absorbed if there is much constipation. Usually however the safer practice is to put an end to the paroxysms first, and afterwards attend to the local affections.

I have found great benefit from combining the sulphate of morphia with quinine, especially in those cases complicated with diarrhœa and irritable stomach. I also gave in many cases where the skin was very dry and the thirst urgent, the spt. æth. nit. combined with a solution of quinine, with great benefit.

My experience in the treatment of miasmatic fever in 1846, leads me to the following conclusions :

1. In a large majority of cases, no matter of what type the fever is, the "preparatory treatment," so called, is worse than useless, causing a loss of time which is often fatal to the patient.

2. A large dose of quinine, (15 or 20 grains,) administered at once, produces a more certain and permanent curative impression upon the system, than small doses (1 or 2 grains) frequently repeated.

Quinine in *large* doses, when administered in the hot stage, so far from exciting the circulation, acts as a decided sedative upon it—the pulse in every instance lessening in force and frequency under its influence. The dogma, therefore, that "quinine in fever is poison," must be discarded.

4. In *uncomplicated* miasmatic fever, mercurials are not at all essential to a complete and permanent cure. They may sometimes be given with advantage in cases where cathartics are indicated at the onset of the disease.

Norfolk, Va., February 6th, 1847.

On Polypus of the Rectum. By Robert Burns, M. D., Frankford, Pennsylvania.

To the Editor of the Medical Examiner.

Sir,—On perusing the January number of the Examiner, my attention was drawn particularly to an article among your medical records, upon *Polypus of the Rectum*, which recalled to my remembrance a case of this kind, which came under my care in the early part of the past summer; and should the following notice of the same be thought worth an insertion in your journal, it is at your disposal.

E. K. Y——s was from her birth what her mother termed a very troublesome child, being frequently indisposed. When about two and a half or three years old, her mother observed that she suffered much distress previous to the act of defecation, and before it could be accomplished, there was a protrusion of a dark red fleshy substance *ex ano*, which bled less or more on every occasion of the kind. This tumour was shortly associated with a second of smaller size, which, after remaining some months, separated from the larger one; this latter continued to enlarge, until, according to the mother's description, it had acquired the size of a small hen's egg. She states it was exceedingly troublesome, requiring to be replaced within the sphincter ani after every evacuation. This prolapse of the polypus always took place before the evacuation of the intestine, and never went up without manual assistance. This state of things continued up to the age of five years, when I was consulted upon

the case. At this time the child was considerably reduced by sanguineous discharge. She had a distressed, anxious appearance, with great timidity resulting from the knowledge of her infirmity, and apparent consciousness that others knew it also. This rendered her an object of deep consideration and sympathy, apart from the usual and necessary interest which must be felt in every case of suffering humanity by the medical practitioner. The physical development of this child was naturally good, her eyes and skin dark, hair brown, and countenance open and intelligent.

On examination of the anus, I found a polypus protruding as large as a small seckel pear, being considerably diminished at the time from frequent bleedings. On dilating the anus as much as possible, by traction in opposite directions, I found the pedicle to be somewhat elongated from the mucous membrane of the rectum above the sphincter; to this I immediately applied a ligature of silk thread, allowing the ends to remain long, which were secured externally by a strip of adhesive plaster; about twenty-four hours after its application the polypus separated, and two days after, the ligature came away. She suffered some pain while the ligature remained, which did not demand special attention. Since its removal, about eight months have passed away, and there has been no return of the disease; no hemorrhage, the function of the part is normal, and the child's health and appearance very much improved.

On Wounds from Fire-Arms without Ball. By Paul Swift, M. D., Philadelphia.

There is obviously a wide spread popular error in relation to the effect of the explosion of gunpowder without ball; and even professional writers on this subject are not very definite in regard to the distance at which a pistol, or other fire-arm, so loaded, may be discharged without inflicting a dangerous wound.

The popular notion and language is, that the piece is not loaded unless it be charged with ball, slug, or shot, as well as powder, and that its discharge is quite safe even when held near the person. Moreover, when wounds do occur from such discharges, all parties seem quite sure that the *wad* is the immediate cause. The following case will illustrate the prevalence of this opinion and its fallacy.

On last New Year's eve, at the Good Will Engine house, Wm. Simler, a minor, playfully, but heedlessly, fired a pistol charged with powder only, at his friend and companion Robert W. Pitt, inflicting a serious wound. Pitt, staggering into the

arms of his friends, cried out, "I am shot." Simler, thinking him frightened, but not harmed, said, laughing, "It was not loaded," or, as another witness testified, "It had no ball in it.' The wound was on the fleshy part of the left hip, above and behind the trochanter major, about one inch in diameter, and four inches in depth; the integuments were destroyed, and the muscles presented a blackened, mangled mass: it bled but little, and was carefully probed with the finger which readily passed to the bottom of the wound. No untoward symptom arose till the sixth day, when tetanus in its most distressing form, opisthotonos, supervened, and he died on the morning of the seventh.

On a careful post-mortem examination, no foreign substance was found but a minute fragment of woollen cloth, about two inches from the surface, and *grains of gunpowder, with which the wound, through its whole extent, was blackened.*

Thus it was evident that this fatal wound was caused by the explosion of gunpowder in a pistol of ordinary size; a wound at least four times as large as a ball from the same instrument would have caused; and so mangled were the tissues, through this great extent, that vitality was utterly destroyed. Had the unfortunate young man lived, it must have been through great suffering, necessarily attending the tedious and exhausting sloughing of the dead mass.

At the legal investigation which followed, there was some discrepancy in the testimony in regard to the distance at which the pistol was held when the wound was inflicted, the witnesses differing from one foot to two or three yards; nor is this very strange, as it occurred in the night, in a place not well lighted, and in the midst of a moving throng of some twenty individuals. The patient himself, however, declared his belief that the weapon "almost touched him." The pistol was said, by Simler, to have had a paper wad; but no wad was at any time found, and the evidence given at the time rendered it quite probable none was used.

Being one of the professional attendants in this case, I was somewhat surprised at the character and extent of the wound; it was obvious no ball could have produced it; nor was it conceivable that a paper wad could have caused such extensive lesions. A considerable research in works on medical jurisprudence failed to give satisfaction, and though the circumstances forced upon my mind the inference that a heavy charge of powder, exploded near the part, had alone caused the mischief, yet, as young Simler had been bound over for trial before a criminal court, it seemed very desirable to possess farther data in the premises. With this view I sought, and, through the courtesy of the officers of Jefferson Medical College, obtained the facilities for making the following experiments, which were used at the sub-

sequent trial, and are now offered to the public with a hope that they may be useful in future medico-legal investigations of this nature. The pistol—the same used by Simler—was wadded with paper, and has a bore about four inches in depth and six lines caliber.

Experiment 1st.—Pistol with an ordinary charge was held 12 inches from fleshy part of hip, the part being covered with one thickness of broadcloth and a twilled cotton cloth under it—Clothes lacerated, and skin abraded; wad on the floor, on fire.

Experiment 2d.—Distance 6 inches; parts covered as before, clothes lacerated; wad lodged one inch and a half below the surface.

Experiment 3d.—Distance 2 inches—wound ragged, blackened with powder, and penetrating to the bone—one and a half to two inches—wad was found immediately beneath the integuments, and somewhat *on one side of the principal wound*—parts covered as before.

Experiment 4th.—Distance one and a half inch from the *ribs* of the right side—no covering of cloth—penetrated the cavity of the chest, the wad passing through the intercostals between the ribs.

Experiment 5th.—Distance the same—no covering of cloth, the integuments removed—wad penetrated the thorax, *carrying away a transverse portion of the rib.*

The subject, about 35 years of age, a male, not recent, had undergone a preserving process with chloride of mercury, considerably hardening the muscles; it was also much emaciated.

BIBLIOGRAPHICAL NOTICES.

SYDENHAM SOCIETY'S WORKS:—*The works of William Hewson, F. R. S., edited with an Introduction and Notes*, by GEORGE GULLIVER, F. R. S., Surgeon in the Royal Regiment of Horse Guards. 8vo. pp. 360. London, 1846.

The works of Hewson, which form the first volume issued by the Sydenham Society for the year 1846, ought to be especially interesting to the American reader. Hewson himself died at the early age of 34, and his widow with her two sons and daughter,

were induced to come to this country on the recommendation of Dr. Franklin, between whom, Hewson and his wife, great intimacy existed. Hewson's Experimental Inquiries into the Lymphatic System, were indeed dedicated to Franklin, "by his much obliged and most obedient humble servant."

No one at all acquainted with the progress of physiology, especially as regards the blood and the lymphatics, is unaware of the merit of Hewson as a physiologist. Still, as Mr. Gulliver remarks, "his writings have been unjustly neglected," and are now so scarce that a complete copy of them is not to be found in the store of any London bookseller, nor even in some of the best libraries, as that of the British museum." Hence, the Sydenham Society have done well to make them a part of their publications, and every one will accord with the editor, that "they will be both an acceptable present to physiological literature, and a just tribute of respect to his memory."

Of the private life of Hewson but little, it seems, is known. He was born at Hexham, in Northumberland, England, on the 14th of November, O. S., 1739; where he received the rudiments of his education at the grammar school. His father was a surgeon-apothecary in the place, and much respected. With him young Hewson acquired his first medical knowledge; but being ambitious to augment it, he placed himself first under an eminent surgeon in Newcastle, Mr. Lambert, and afterwards resided for some time in London, Edinburgh, and Paris. In the autumn of 1759, he went to London, lodged with John Hunter, and attended the lectures of Dr. William Hunter. His diligence and skill soon recommended him to the favourable notice of the Hunters, and when John went abroad as surgeon with the army, early in 1761, he left to Hewson the charge of instructing the other pupils in the dissecting room. Hewson entered himself also as a pupil at Guy's and St. Thomas's Hospitals, and went to Edinburgh, where he studied until the winter of 1762, when he returned to London, entered into partnership with Dr. Hunter, gave some lectures, and had a share of the profits. In the summer of 1765, he went to France, but returned to London in time for the anatomical lectures. In 1768, on the sea coast of Sussex, he made sundry experiments on fish; and his papers on the lymphatic system of oviparous vertebrate animals were laid before

the Royal Society during the following winter, when he was made a fellow of the Society. To his recommendatory certificate were attached, amongst others, the names of Sir John Pringle, Dr. William Hunter, and Dr. Franklin.

In 1769, Dr. Hunter finished his well known building in Windmill street, where Hewson had a small apartment assigned him. They continued the lectures in partnership, dividing the profits equally—Hewson giving more of the lectures than he had formerly done. The Windmill street school is no longer in existence, but—as Mr. Gulliver remarks—"it will be preserved from oblivion by the names of the eminent men who lectured there. Among these the future historian of anatomy and physiology will have to commemorate William Hunter, Hewson, Cruikshank, Sheldon, Baillie, Brodie, Charles Bell." Mr. Gulliver might have added James Wilson—a man of decided, but modest merit, who was much respected by all who knew him, and whose name has been signalized in the "Muscle of Wilson."

In 1770, after his marriage, Hewson took a house near Dr. Hunter, in association with whom he continued to lecture during the winter of 1771. The connexion was soon after dissolved; and in 1772, Hewson began to lecture independently in Craven street, where he had built a theatre adjoining a house which he had destined for the future residence of his family. Before he began this course of anatomy, he gave a lecture on the uses of the spleen and thymus, to which he invited many men of science. His success in his first course of lectures was so great, that he had more than half the number of pupils that Dr. Hunter and he had conjointly.

Early in 1774, he had every reason to be satisfied with his position. "In viewing the situation of our associate at this period," says Dr. Lettsom—somewhat grandiloquently,—"the most gratifying prospects presented themselves, where genius and industry were rewarded with success, and domestic amities with felicity. The theatre in which he delivered his lectures and expounded his doctrines, was crowded with men of science, as well as with pupils, to listen to a youth grown sage by experimental researches." "In short," adds Mr. Gulliver, "Hewson was now surrounded by the blessings of life. He had a kind and just wife, who had borne him two lovely sons; his favorite sister lived with him; his success

in teaching was no longer doubtful, and his practice in surgery and midwifery had so much increased as to give him the fairest prospect of providing well for his family. But this happiness was soon to end. He was seized with a fever occasioned by a wound received in dissection, which proved fatal on May-day 1774, after a short illness, in the thirty-fifth year of his age."

His wife, whose maiden name was Mary Stevenson,—and who appears to have been a most exemplary woman,—had been upon terms of the warmest friendship with Dr. Franklin, from the age of eighteen. She was the daughter of a lady with whom the Doctor resided during the fifteen years he passed in London. Miss Stevenson lived mostly in the country with her aunt, Mrs. Tickell, and when Hewson proposed marriage to her, she consulted Franklin on the subject. The winter of 1783–84 she spent with Franklin at Passy. He had taken especial care in the direction of her studies, and some of his best letters on philosophical subjects were addressed to her. After she lost her mother in 1783, he frequently expressed a desire that she should become his neighbour in America; and in 1786, she proceeded with her children to Philadelphia, where she lived until 1792, and then returned to Bristol, Pennsylvania, where her eldest son William had established himself, and where "she closed a well spent life on the 14th of October, 1795." "Her second son, Thomas Tickell Hewson," adds Mr. Gulliver, "who was an eminent physician, and her daughter, Mrs. Caldwell, were both living at Philadelphia in 1837. Her son William died at Vera Cruz in 1832. In the hope that some further observations might be obtained from America concerning Mr. Hewson and his descendants, the printing of this sheet has been long delayed, but my inquiries have only elicited, that his son, Dr. Hewson, is at present the respected President of the College of Physicians at Philadelphia."

Mrs. Caldwell, we would inform Mr. Gulliver, is living; and we are happy to add that the surviving son of Hewson still pursues the career of an honorable, distinguished, but unobtrusive practitioner, esteemed by all who know him, and universally and justly regarded, from a long career of honorable service, as the patriarchial head of the profession in Philadelphia,—the worthy representative of the past and the present. Well does he merit the position of President of the College of Physicians, or of any

other body to which the suffrages of his medical brethren may call him!

The works of Hewson are in three parts. *Part first* treats of the properties of the blood. *Part second*, of the lymphatic system; and *Part third*, of the red particles of the blood; with some detached papers. It contains also eight copperplates, and an excellent engraved likeness of Hewson from a mezzotint in the possession of Mr. John Quekett, which is probably the same as that spoken of by Dr. Franklin, in a letter he wrote to Mrs. Hewson from Passy, in 1782:—"I forget whether I ever acknowledged the receipt of the prints of Mr. Hewson. I have one of them framed in my study. I think it very like."

The editor Mr. Gulliver, is well known for his translation of Gerber, and for his microscopical researches. He has attempted to place the matters to which his notes relate on a level with the present state of knowledge, and in this he has amply succeeded. Both in them, and in the introduction, the historical method has generally been kept in view, "because it is useful and pleasing, in a work of this nature, to mark the footsteps of the science and the names of its cultivators." The labour he has bestowed upon the subject has been great, and the results are most satisfactory. On the whole, the profession owe their thanks to the Sydenham Society for having placed in their possession—and in so beautiful a form — the works of one of the most distinguished of British physiologists.

The Principles and Practice of Ophthalmic Medicine and Surgery. By T. Wharton Jones, F. R. S., Lecturer on Anatomy, Physiology and Pathology at the Charing Cross Hospital, etc., etc. *With one hundred and two Illustrations.* Edited by Isaac Hays, M. D., Surgeon to Wills Hospital, etc. 8vo. pp. 509. Lea & Blanchard. Philadelphia, 1847.

The author of this work is well known to the profession by numerous and valuable contributions, which have appeared in the medical journals of the British Metropolis within the last few years, especially on Physiological and Pathological subjects. All his writings are distinguished by great precision and clear-

ness as well as terseness of style, and the production before us is well entitled to this praise.

"To produce a work on Diseases of the Eye," says the author in his preface, "which should serve at once as a text-book for students and as a book of reference for practitioners, has been the great aim of the author in composing this manual. Accordingly, besides carefully discussing the principles, he has laboured to give such a practical exposition of the subject as will be found available at the bedside of the patient, and in the operating room. At the same time, he has not neglected the opportunity which the subject offers, of illustrating the general doctrines of pathology, especially those of inflammation." The author furthermore mentions "that he has incorporated in the present volume the various contributions to ophthalmic medicine and surgery which he has made, some anonymously, in the course of the last fifteen years, and also that he has freely availed himself of the information contained in the principal works, British and foreign, on the subject."

On the subject of inflammation, affecting the various tissues of the eye, the author has treated at considerable length, and certainly with great clearness. As many of the most important diseases of this delicate organ consist either in inflammation or its consequences, and as all operations upon it must be regulated by the kind and degree of inflammation expected to follow, he justly regards an accurate knowledge of it as the master-key to the whole subject. This part of the work, therefore, is particularly rich and instructive for the young practitioner; indeed the work throughout is one of very great merit, and eminently worthy of the confidence of the profession. "The author having fully posted it up to the knowledge of the day, the Editor's task," to use his own language, "has been a light one. He has restricted himself merely to the narration of the results of his own experience in a few instances in which they differed from those of the author."

The pictorial illustrations are valuable, but we cannot say that the execution of all of them is equal to what we are accustomed to see from the press of the same eminent American publishing house.

Materia Medica and Therapeutics, including the Preparations of the Pharmacopœias of London, Edinburgh, Dublin, and [of the United States,] with many new medicines. By J. Forbes Royle, M. D., F. R. S., late of the Medical Staff of the Bengal Army, Member of the Medical and Chirurgical Society of London, of the Medical and Physical Society of Calcutta, and ,the Royal Medical Society of Edinburgh, &c., Professor of Materia Medica and Therapeutics, King's College, London. Edited by Joseph Carson, M. D., Professor of Materia Medica in the Philadelphia College of Pharmacy, Member of the American Philosophical Society, &c., &c., with ninety eight illustrations. 8vo. pp. 689. Philadelphia, 1847. Lea & Blanchard.

Of the various works that have from time to time appeared on materia medica on the plan of the one before us, there is none more deserving of commendation. From the examination which we have given, accuracy and perspicuity seem to characterize it throughout, and as a book of reference to the student of medicine, and especially of pharmacy in its applications to medicine, none could be better. But arranged as the lectures are in our medical schools, with sessions of a duration of not longer than four months each, it would manifestly be impossible for a professor on materia medica and therapeutics to embrace the relations which drugs bear to other subjects than medicine proper; and hence the best constant accompaniment to a course of lectures on materia medica and therapeutics in our schools is one that treats of the articles as medicines chiefly. In this relation we would not place Dr. Royle's work in the very first rank, to which position it is unquestionably entitled amongst treatises which are more adapted perhaps for the pharmaceutist than the physician.

From the station, which Dr. Royle occupied in the East India service, he was enabled to collect a vast amount of information in regard to the natural and commercial history of various drugs, on which but little precise knowledge was possessed previously; and every future work on materia medica and pharmacy—every new edition of dispensatories—must be esteemed imperfect, unless it shall have culled extensively from the valuable materials contained in his pages. Dr. Royle adopts the natural ar-

rangement, and treats, in succession, of the operations of pharmacy, pharmaceutical chemistry, mineral materia medica, vegetable materia medica, medicinal plants from ranunculaceæ to fungi; products of fermentation; animal materia medica from porifera to mammalia,—concluding with remarks on a physiological and therapeutical arrangement of the materia medica.

We think that every one who can afford it should possess this excellent work, the value of which has been greatly enhanced by the additions of Dr. Carson, than whom no one is more competent to estimate it correctly, and to make such additions as may adapt it for American service.

It is well "got up," and the wood cuts are better executed than in any work of the kind that has issued from the American press. The cause why certain plants have been selected rather than others is not apparent, but the author, we doubt not, could assign one that is satisfactory. Belladonna, Hyoscyamus and Stramonium, for example, have xylographic illlustrations, whilst Digitalis, Tabacum, Rheum, Camphora, and numerous others are neglected. The number of illustrations mentioned on the title page shows, indeed, that a large proportion of the plants must go unrepresented.

Lecture Introductory to the Course on the Theory and Practice of Medicine, in the Medical Department of Pennsylvania College. Session 1846–47. By William Darrach, M. D.

The excellent temper and good feeling exhibited in this lecture of the amiable Professor is in strong contrast with the ebullitions of spleen and mortified vanity, exhibited on like occasions by some grey-headed occupants of chairs in older and more pretending institutions. For the edification of such, we copy the opening paragraph.

"The topic, which I have been induced to select as an introductory lecture, is Life. Before I discuss it, permit me to tender you the usual, and, at the same time, most heart-felt welcome to all our Philadelphia Medical schools. Hitherto, we have been the youngest of them; and now there is yet a younger—the Franklin Medical College of Philadelphia. Prosperity to her laudable efforts! Long life to her! In her name and our own we welcome you. In that of our elder sister, the Jefferson Col-

lege, in her beautifully remodelled edifice; in that of the University of Pennsylvania, the venerable and beloved mother of us all; in the name also of the departed and never to be forgotten worthies, Rush, Wistar, Barton and Physick, patriarchs of American medicine—and higher yet, we welcome you in HIS Name, the Source of life, in whom we live."

Such sentiments disarm criticism, even when invited to the task by assailable doctrines and inconclusive reasoning.

THE MEDICAL EXAMINER.

PHILADELPHIA, MARCH, 1847.

LA LANCETTE CANADIENNE.

We have received the first and third numbers of a new Medical journal with this title, in the French language, published at Montreal (Canada) on the first and fifteenth of every month. The journal is edited and published by Dr. J. L. Leprohon, and from the ability displayed in the numbers before us, promises to be an able coadjutor in the good work of diffusing Medical knowledge. A considerable portion of the practitioners of Canada speak and write the French as their vernacular language, and to them such a publication must be particularly acceptable; and as many of the younger and more aspiring members of our profession in the United States pay more or less attention to it, they will find the perusal of such a journal to subserve the double purpose of furnishing them with much valuable information in the line of their profession, and of improving them in the knowledge of the language in which it is conveyed. We wish the enterprising editor a full realization of his warmest anticipations, whilst we promise ourselves the pleasure of occasionally gleaning from his labours for the benefit of our readers.

NATIONAL MEDICAL CONVENTION.

From all that we can discover, the Medical Convention to be held in this City in May next is likely to be the largest body of the kind ever assembled. Delegates have already been appointed by most of the Colleges and chartered Medical Societies throughout the Union,

and as the number of representatives from each body is determined by itself, without any suggestion or restriction emanating from any other quarter, many of them have chosen large delegations, especially the popular bodies. These latter, it seems to us, if the delegates vote per capita, will not only swallow up the schools, but, to use a bull, swallow themselves too—that is, the large number appointed by a few of them in the principal cities will out-vote all the rest. However, if wise counsels prevail so that they vote aright, and benefit accrues to the profession and the people, there will be none to complain.

The number appointed in this city, we believe, is as follows, viz:

By the Philadelphia Medical Society,		twelve.
"	College of Physicians, - -	twelve.
"	University of Pennsylvania, -	three.
"	Jefferson Medical College, -	three.
"	Pennsylvania College, - -	three.
"	Franklin College, - -	three.
"	Northern Medical Association, -	five.
"	Philadelphia College of Medicine,	two—in all forty-three.

CATALOGUES OF MEDICAL SCHOOLS.

Last year we collected from the Catalogues and Medical Journals published in the different sections of the United States, the number of students and graduates of the season, and published the whole in tabular form, and we are desirous of doing the same the present year. To enable us to perform this task accurately, we respectfully request of the deans or secretaries of the different institutions to forward to us their respective Catalogues as soon as published. Thus far we have received but four, viz: those of the Jefferson Medical College of Philadelphia, the University of Pennsylvania, of the University of Louisville (formerly Medical Institute,) and the Memphis Medical College of Tennessee.

From these it appears that the class of the Jefferson Medical College during the past Session numbered - - - - -	493
University of Pennsylvania - - - - - - -	412
University of Louisville - - - - - - - -	348
Memphis Medical College - - - - - -	55

NORTHERN MEDICAL ASSOCIATION OF PHILADELPHIA.

In a former number we mentioned that the physicians residing in the northern part of Philadelphia, including Germantown and Frankford, were about to form themselves into a society for the promotion

of science and good-fellowship; since then, we understand that an association has been regularly organized under the title of "*The Northern Medical Association of Philadelphia*," and that on the 14th of January last the following gentlemen were duly elected officers for the present year:

President—Dr. Benjamin S. Janney.
Vice-President—Dr. Arnold Naudain.
Counsellors—Drs. Uhler, Yardley and Hatfield.
Treasurer—Dr. M. B. Smith.
Secretary—Dr. Remington.
Reporting Secretaries—Drs. Townsend and Bryan.

The association has been judicious in the selection of gentlemen for its officers who are greatly respected in this community, and under such favourable auspices the best results must follow its organization.

RECORD OF MEDICAL SCIENCE.

Observations on the Employment of Compression in Aneurism. By O'Bryen Bellingham, M. D., F. R. C. S. I., one of the Medical Officers of St. Vincent's Hospital.

Mode in which Nature effects the cure of Aneurism.

When we consider how many writers have devoted their attention almost exclusively to the subject of aneurism, and how much talent has been engaged in illustrating its history, pathology, and treatment, it appears strange that the process which nature herself sets up for its cure should have been so much overlooked hitherto by surgeons; and although this process was daily, I may say, passing under their eyes, that the exact mode in which it was accomplished should have attracted but little attention, and no attempts should have been made to imitate or assist it.

In almost every case of aneurism where the disease has subsisted for some time, we find a larger or smaller amount of solid matter deposited in the sac, which is composed of the fibrine of the blood, arranged in regular concentric laminæ.

Examples of the spontaneous cure of aneurism, in which the sac is completely filled with fibrine deposited in regular concentric layers, are not very uncommon.

Again, in cases of valvular or other disease of the heart, when a considerable impediment exists to the circulation through its chambers, we know that the fibrine of the blood will separate from its other constituents, and form the bodies improperly termed polypi, (which are sometimes so closely interwoven with the carnæ columnæ and chordæ tendinæ as to be with difficulty detached,) which by closing the orifices, or obstructing the action of the valves, not unfrequently proves the immediate cause of death.

These familiar facts all tend to prove—

1st. That nature herself sets up a process by which, under favourable circumstances, the cure of aneurism is effected.

2d. That the mode in which she effects this, always in internal aneurism, and frequently in external aneurism, is by the deposition of the fibrine from the blood in the sac of the aneurism, until it becomes filled.

3d. That the fibrine in such cases is deposited in regular concentric laminæ, the oldest or first formed next the sac, those most recently formed nearest the centre.

4th. That a current of blood through the aneurismal sac is a necessary agent in bringing about this result.

5th. That any obstruction to the current by which its velocity and amount are diminished will accelerate the deposition of fibrine in the aneurismal sac.

6th. That once this process has commenced, if the same agents continue in operation, it will go on until the sac becomes filled, and no longer permits of the entrance of blood.

Writers upon aneurism hitherto appear to have been more intent upon solving unimportant points connected with the distinction between true and false aneurism ; or in ingenious speculations as to the comparative frequency of aneurism from dilatation of all the coats of the artery, or from rupture of the internal and middle coats, than in investigating the mode in which a spontaneous cure of the disease takes place. Indeed so little notice is taken of this process in some modern works, that one would suppose the authors were either ignorant of the facts just stated, or looked upon the phenomena as too unimportant to dwell upon.

Before proceeding further, there is a point upon which I wish to make a few remarks. In the details of the cases of aneurism treated by compression which have been published within the last three years, the writers speak of the coagulation of the contents of an aneurismal sac, or of developing a coagulum in it by pressure upon the artery at the cardiac side, as if a coagulum or clot, and the concentric laminæ of fibrine which form in aneurisms, were identical: indeed, from the loose manner of expression adopted, it is sometimes difficult to tell whether the writers are aware of the distinction between them. This is the more remarkable, because the two substances in appearance, colour, and consistence, present a remarkable contrast; the one being soft and loose, of a very dark colour, not deposited in any regular order, and composed of the red globules and

fibrine of the blood; the other being solid and firm, of a paler colour, deposited in regular concentric laminæ, and composed of fibrine alone, or with a very small proportion of the red globules. The former is commonly found in the auricles of the heart, and in the large veins which open into them, and is familiar to every body; the latter constitutes the solid matter, which, in greater or less quantity, fills the sac of old aneurisms.

It is obvious, therefore, that the mode in which these two different deposits are formed cannot be the same. To cause the deposition of fibrine in an aneurismal sac, it is essential that a stream of blood should pass through it for a period that will vary according to different circumstances; but its deposition will be promoted or encouraged by diminishing the strength of the current in the artery leading to it, and by lessening the amount of blood which passes through the sac. This, it is easy to understand, can be readily accomplished by compressing the artery at the cardiac side of the aneurism, and the pressure need not be so strong as to occasion very great pain to the patient.

On the other hand, to bring about the coagulation of the contents of an aneurismal sac, the blood must remain at perfect rest for a considerable time; if a current continues to pass through the sac, the blood in it will be replaced by another portion before there is time for its coagulation; for although a coagulum or clot will quickly form when blood is removed from a vein, it is not so easy a matter to bring about its coagulation in an aneurismal sac in a living subject. To effect this, very considerable pressure would be necessary; the compression likewise, it appears to me, would require to be made upon both the cardiac and capillary side of the sac, and very near the latter; while the process will necessarily be so painful that few patients would be willing to submit to it.

It would appear then—

1st. That it is not by the formation of a coagulum in the aneurismal sac that nature effects the cure of the disease, but by the deposition of the fibrine from the blood which circulates through the sac.

2d. That simply diminishing the current will not cause the coagulation of the contents of an aneurism, but it will occasion the deposition of fibrine in the sac.

Proofs that Compression effects the cure of Aneurism in the same way as nature accomplishes this object.

The details of the cases previously given prove that pressure, so as completely to prevent the entrance of blood into an aneurismal sac (supposing that this could effect the coagulation of the blood, or that it could be borne by the patient,) is not necessary for the cure of aneurism; and all the facts connected with this method of treating aneurism go to prove that the consolidation of the tumour is brought about by the deposition of fibrine in the sac, not by the coagulation of the blood contained in it. Thus it has frequently been mentioned that at the commencement of the treatment, the aneurismal tumour

was soft and compressible, and collapsed on pressure on the artery leading to it; but after compression had been employed for a time, the sac became hard and incompressible, and did not collapse when the circulation through the artery leading to it was interrupted; proving that a deposition of fibrine had taken place, and that the process by which the sac was to be filled up had commenced.

In two cases recently published, an abstract of which has already been given, (one of which was treated by Mr. Porter, and the other by Mr. Cusack, and where the patients, curiously enough, were both medical men,) it has been mentioned that after pressure had been employed for a time, it became so irksome that the patients refused to continue it, they resumed their ordinary habits, and commenced taking exercise. At this period the sac in both cases is stated to have become hard and incompressible, yet the aneurisms ceased to pulsate, and a cure was effected, although pressure had not been used for some time; showing that the deposition of fibrine having commenced, went on, notwithstanding that compression was discontinued.

Again, I have given an account of the appearances found in the limb of a patient the subject of popliteal aneurism, who had been under treatment by compression for some time, but who died of erysipelas before the cessation of pulsation in the aneurism, and I have stated that "the aneurismal sac was in a great measure filled with firm layers of fibrine deposited in concentric laminæ," but that "no coagulum or clot was contained in the sac."

Lastly, the very fact of the irregular manner in which the compression has been maintained in many of the cases, having been often intermitted and resumed according to the sensibility or irritability of the patient, is an additional proof that it was by the deposition of fibrine in the sac, not by the formation of a coagulum, that the cure was ultimately accomplished.*

From what I have now said, it would appear that the mode in which pressure upon the artery at the cardiac side of the aneurism effects the consolidation of an aneurism, and that by which nature effects this object, are identical; in both cases the fibrine of the blood is

*I have often been compelled, much against my will, to digress, in order to correct the misrepresentations and errors contained in a "History of the Cure of Popliteal Aneurism by Compression," put forward in the shape of an "editorial article" by Mr. Wilde, in the *Dublin Quarterly Journal of Medicine* for August, 1846 (which has been also reprinted separately, and distributed extensively.) In noticing this curious production for I hope the last time, I shall merely observe, that his remarks upon the mode in which compression effects the cure of aneurism will be read with surprise by every one who has seen this method employed; and cannot fail of leading to the conclusion that the writer must be utterly ignorant respecting both its theory and practice. "It is quite apparent (he says, the italics are also his own,) that its [pressure] removal at *a particular time*, even for a few minutes, and allowing the flow of blood through the sac again to take place, will undo all that had been before effected!"—*Vide Dub. Quart. Jour. for Aug.* 1846, *p.* 131.

gradually deposited in the sac, which continues until the sac becomes filled, and no longer permits of the entrance of blood. I have next to show that the ulterior changes which take place are the same in both.

When the sac of an aneurism has been completely filled by fibrine, deposited as already mentioned, the disease is cured ; it can neither increase in size, nor can rupture take place. If the aneurism was seated in the arch of the aorta, however, the calibre of the artery at the part from which it springs will still be preserved, and the circulation will continue through it as before, because the anastomosing branches are not sufficiently numerous or large here to carry on the circulation if this vessel was suddenly obliterated ; while the current through it is necessarily too strong to permit of fibrine being deposited in its interior. Eventually, the sac diminishes in size from the gradual absorption of its contents, and ultimately it may in a great mea sure disappear.

When the sac of an external aneurism has become filled by fibrine, the disease is evidently also cured, and the circulation through the artery may continue for a time ; but the anastomosing branches here being numerous and free, the blood passes down the main artery of the limb in a diminished stream, the deposition of fibrine therefore continues until the artery at the seat of the aneurism is encroached upon and gradually filled by fibrine, when its pulsation stops, and the deposition of fibrine ceases.

Once a certain amount of fibrine has been deposited in an aneurismal sac, as the result of pressure upon the artery above, there would appear to be an irresistible tendency to its continuing to be deposited until the artery at the part is likewise closed up ; this fact has been proved by the two cases to which I have recently referred, where the patients refused to continue the pressure, and commenced taking exercise ; yet under these apparently unfavourable circumstances, the pulsation ceased after a short interval, and a cure was effected. It is therefore not unlikely that the artery has many times been tied in aneurism, where the process which nature sets up for its cure had made considerable progress, and where a little further delay would probably have done away with the necessity for its performance.

The ultimate changes which take place when the pulsation of an external aneurism ceases, are the same, whether this result has occurred spontaneously or been brought about by compression. The circulation is carried on by the enlarged collateral vessels, the contents of the sac and the artery at the part from which it springs, are gradually removed by the absorbents, the sac disappears in a great measure, and the vessel is eventually converted into an impervious ligamentous band. Guattani Petit, besides many other writers, have reported cases of aneurism spontaneously cured, where this condition of the parts was found ; and I have already described the appearance which I found in a case were the patient died two years and a half after the cure of a popliteal aneurism by compression, and sixteen months after the cure of a femoral aneurism in the opposite limb ;

"the artery at the site of each anurismal sac was converted into a solid, thick, ligamentous band, its channel was obliterated, and the contents of the sacs had been removed by the absorbents."

The foregoing facts all go to prove, that when a cure of external aneurism takes place spontaneously, or when it is brought about by compression, it cannot fail of being permanent; the sac is filled up, and the artery from which it springs is obliterated; consequently, pulsation cannot return, nor can a secondary aneurism form at the part, both of which have occasionally occurred after an apparent cure by the ligature.

Proofs that the ligature at a distance from the sac effects the cure of aneurism in the same way as compression.

I have now given a sufficient number of proofs that the mode in which compression effects the cure of aneurism, is identical with that by which nature accomplishes this object. If it could now be shown that the ligature of the artery at a distance from the sac generally effects the cure of aneurism in the same way, it might help to remove the prejudiced view taken of compression by surgeons, who are either so wedded to the ligature that they distrust every other mode of treating aneurism; or who, through ignorance of the principles upon which it effects a cure, can see in it nothing but the revival of an obsolete and abandoned method. This I shall now endeavour to do.

Almost every writer upon aneurism mentions cases where the pulsation returned after the ligature had been used; or where hæmorrhage occurred from the sac subsequent to the operation. "It is not uncommon (Mr. Guthrie says) for a pulsation to be felt in the tumour a few hours, or in a day or two after the operation, but it very rarely continues." "A stream of blood (Mr. Hodgson observes) in most instances passes through the aneurism after the ligature of the superior part of the artery; yet this current is in most instances not sufficient, either by its quantity or by the force with which it is impelled, to continue the disease."

These facts show that the ligature of the artery at a distance from the aneurism does not always prevent a current of blood from passing through the sac, while pathology proves that inosculating branches not unfrequently communicate with the artery between the ligature and the sac; that the artery is always pervious here, and remains so after the cure of the aneurism; and that the sac has been found filled with fibrine deposited in concentric layers, where an opportunity has been afforded for examining the limb some time after the operation.

The theory laid down in modern works respecting the mode in which the ligature of the artery at a distance from the sac effects the cure of aneurism, is as follows:—When the ligature is tightened, the blood contained in the sac, or which may find its way into it afterwards, distends the sac, and extends into the artery above and below the opening by which it communicates with it; it coagulates, the fluid parts are absorbed, and the more solid, aided by the contraction of the sac, form a firm tumour. The coagulum is subsequently removed by the absorbents, and the vessel is obliterated at the seat of

the aneurism, and for a short distance above and below it. The sac gradually diminishes in size from the absorption of its contents, and ultimately disappears either wholly or partially.

The foregoing theory would be perfectly correct if the artery were always tied close to the aneurismal sac, or if the artery were always obliterated between the ligature and the sac. But as the ligature is applied at a distance from the sac, and as the vessel in nineteen cases out of twenty remains pervious afterwards for some space between the ligature and the sac, it is evident that the vessel here must have continued to convey blood after the operation, because otherwise its cavity would eventually have been obliterated. It is therefore probable that a feeble current of blood continues to pass through the sac after the operation, and that in a great majority of cases the cure is brought about by the deposition of fibrine in the sac, not by the coagulation of its contents. This is further confirmed by pathology; Mr. Hodgson says, "in the dissection of cases some time after the operation, it has been found that the cavity of the sac was filled with concentric layers of coagulum, similar to that which is met with in aneurisms undergoing spontaneous cure," which obviously could not have occurred unless a current of blood continued to pass through the sac after the operation.

The ligature of the artery at a distance from the sac cannot of course effect the cure of aneurism unless the sac itself becomes obliterated: now, it appears to me that if the theory usually laid down were correct—viz., that the blood contained in the sac, and that which finds its way into it subsequently, coagulates after the ligature is tightened, one of two results would follow the operation much more frequently—a secondary aneurism would form at the part: or suppuration of the sac would ensue.

A secondary aneurism, for instance, would be liable to form, if the sac was large, and its contents wholly fluid at the time of the operation. It is obvious that in such a case, when the fluid portion of the coagulum is absorbed, the sac must shrink considerably to form a solid tumour. Writers upon aneurism have, however, endowed aneurismal sacs with extraordinary elastic powers, in order to enable them to uphold this theory; but in all the cases which I have seen dissected, the sac had formed adhesions with the parts in its vicinity; and if it possessed elasticity (which, considering that it is composed of the cellular coat of the artery is rather doubtful,) this agent could not have come into operation; consequently if a large anastomosing branch eventually communicated with the artery between the ligature and the sac, the pulsation would return, and a secondary aneurism would form at the part. I have little doubt that in the cases which have been reported where this result followed the operation, it was owing to a coagulum only having formed in the sac; it evidently could not have occurred if the sac was filled by fibrine deposited in the way that had been mentioned.

That suppuration of the sac would be liable to ensue under such circumstances, is, I think, also evident. We have a large sac contain-

ing more or less coagulated blood, this after a time comes to act as a foreign body, inflammation followed by suppuration sets in, particularly if, as not unfrequently happens in hospital practice, the tumour is much or often handled. The history of operative surgery contains many cases where suppuration of the sac followed the operation; and what has now been said will explain why it should have occurred in some cases and not in others apparently similar. If the ligature is placed very close to the sac, and the current of blood is thus completely cut off from it, inflammation followed by suppuration is more liable to follow than where the vessel is tied at a distance from the sac; we have seen that in the latter case a feeble current continues to pass through the sac after the operation, the sac becomes eventually filled with fibrine, and inflammation is as unlikely to ensue as after the treatment by compression.

Writers upon aneurism are somewhat obscure as to the exact mode in which the *artery* at the seat of an aneurism is obliterated after the ligature. The examination of cases where the patient lived for a long time after the operation, proved that this did occur; and that the appearances found here on dissection were exactly similar to those observed after both a spontaneous cure and a cure by compression.

The explanation usually given is, that the coagulum extends from the sac into the artery above and below it, which prevents the entrance of blood; this after a time becomes absorbed, the artery at the part gradually contracts, and is eventually converted into a solid cord. But we have seen that the artery remains pervious for some distance between the point at which the ligature is applied and the sac, and that a current of blood probably continues to pass through it after the operation, which would necessarily interfere with the formation of a coagulum in the artery at this part. Others suppose that inflammation sets in here, which unites the opposite sides of the artery; but they do not give any reason why the adhesive inflammation should be so conveniently set up at this particular spot; besides, we know that the vessel is obliterated at the same place when a spontaneous cure occurs, or where this followed the employment of pressure, although no adhesive inflammation occurs in either of the latter cases. The explanation becomes easy, however, if we admit that a current of blood continues to pass through the sac after the operation; the oblitration of the artery will be effected exactly in the same way as occurs in cases of spontaneous cure, or where compression had been employed.

Every thing that has now been said makes it probable that the ligature of the artery at a distance from the sac, and compression of the vessel at the cardiac side, effect the cure of aneurism in the same way. It has already been shown that the mode in which nature brings about a spontaneous cure is precisely similar; which of itself is a strong argument in favour of its correctness. But there is another circumstance which tends still further to confirm it—viz., that several phenomena connected with the surgical treatment of aneurism which were hitherto obscure, and inexplicable upon the theory that the

coagulation of the contents of the sac always follows the operation by ligature, are readily explained according to this theory.

For instance, we have seen that a slight pulsation is not unfrequently felt in the sac subsequent to the operation. Now, this theory not only explains its cause, but it shows why it ceases after a short time, and why, instead of being an unfavourable sign, it should rather be regarded as a favourable one.

By this theory alone, we can account for the artery being obliterated after the ligature at a point from which the aneurism springs, while it remains pervious between the ligature and the sac.

Lastly, it enables us to explain why suppuration of the sac should occur after the operation in one case and not in others apparently similar; and how a secondary aneurism forms in certain cases a long time after the operation, while in general it must be a rare result of the ligature.

Spontaneous cure of external Aneurism.

Every writer upon aneurism mentions or refers to cases where an external aneurism ceased to pulsate some time after admission into hospital, although a bandage had been merely placed round the limb (with or without compress upon the tumour,) but without the slightest intention or expectation of producing any effect upon it. Such cases are comparatively rare, and hitherto have been looked upon as the result of some happy chance which might occur once or twice in a practitioner's life, but from which no deductions could be drawn. "Such instances of inexplicable recovery (a recent writer observes) are extremely rare, and as examples of singular good fortune, are rather to be hoped for than expected; neither can any principle of practice be established on them."

In Mr. Porter's excellent practical treatise on Aneurism, published a few years since, two cases of this kind, which occurred in the Meath Hospital, are shortly reported. "Some years since (he says) a man suffering from aneurism was admitted into the Meath Hospital. The tumour was situated low down in the popliteal space, and was large, being fully the size of a turkey's egg. The limb was semiflexed, and could not be extended; pain very considerable; tumour not compressible, at least pressure influenced its size but slightly; it was hard, and did not diminish in bulk when the femoral artery was compressed, which, however, stopped the pulsation. With a view to humour the patient, until he could be persuaded to submit to an operation which I conceived to be absolutely necessary, I rolled a large bandage round the entire limb, from the toes upwards. This, as the idea of treating the disease by compression had never been contemplated, was very loose; nor had I the least notion that the tumour could have been influenced by it, one way or another. But on my visit the next day the aneurism was gone. Within an hour after the application of the bandage, the patient experienced some pain in the tumour, which soon became excruciating, and continued during the entire night. In the morning the tumour no longer pulsated—it had become solid and firm, and eventually the disease was cured."

"On another occasion a man was admitted into the same hospital, under the care of Mr. M. Collis, with a popliteal aneurism, the history of which I do not recollect with very great accuracy, except that it was rather of large size, not compressible, and there seemed to be not much fluid blood in the sac. A bandage was applied to this in a similar manner to that in the former case; it caused immense pain, and on the following morning the pulsation in the tumour was no longer to be felt. It, however, reappeared after a little time, but so very indistinctly that it was a questionable matter whether the sensation was not communicated from the finger of the examiner, and not from the tumour. The application of the bandage was persevered in, and in the course of a very few days no doubt could be entertained of the cure."

In the second volume of the Dublin Medical Press, Dr. Brunker of Dundalk, has related a somewhat similar case. The patient, aged 32, was admitted into the Louth Infirmary in August, 1839. His occupation had been very laborious and the aneurism had been first observed fifteen months previously. "On examining the ham, the entire space was observed to be completely filled up by a pulsating tumour, beating synchronously with the heart, soft and compressible, but becoming distended on the removal of the pressure. Pressure being made on the femoral artery in the groin, the pulsation instantly ceased, and the size of the tumour was sensibly diminished. He was ordered to remain in bed, and was placed on low diet.

"Two days after admission, a piece of dry sponge was placed over the aneurism, and retained *in situ* by a roller rather loosely applied."

Five days subsequently, on the removal of the bandage and compress, the tumour was much diminished in size, and no pulsation whatever could be detected in it. The pressure was continued, and the patient was directed to remain in the recumbent posture. He left the infirmary a few days afterwards. He was seen about a fortnight subsequently, and the bandage and compress had been continued, and he had remained quiet. "On removing them (Dr. Brunker observes) I could scarcely discover any traces of the former tumour, and no pulsation whatever was to be felt. A very obscure pulsation was to be felt in the anterior tibial artery, which could not before be discovered on a very careful examination."

It appears to me that the cause of the cessation of pulsation in the cases of aneurism which have been detailed, and in other similar ones, instead of being obscure, is easily explicable upon the principles laid down in the preceding pages; aud that their history tends still further to corroborate what I have already said respecting the mode in which compression effects the cure of aneurism.

Thus, in every case that has been reported, the disease was of long standing, and the tumour had attained a considerable size. In the majority of cases, likewise, it was hard and solid, and did not diminish in size when the artery above was compressed; proving that a deposit of fibrine had already taken place in the sac, and that nature had already made some progress in the process by which the cure

was ultimately to be accomplished. In fact, the condition of the parts was similar, in almost every respect, to that which we endeavour to bring about by the application of pressure; and which when it occurs, is the most satisfactory proof that the case is progressing towards a cure. In the third case which I have quoted, the tumour, though of long standing, is reported to have been "soft and compressible;" but it will be observed that pressure was maintained for five days before the aneurism ceased to pulsate, evidently a sufficient length of time for a deposit of fibrine to take place. Indeed in some of the cases of aneurism treated by compression, previously given, the pulsation ceased within a shorter period.

The mode in which the bandage and compress acted in effecting the cure of the aneurism in these cases appears to be similar to that in which nature in some rare instances, has effected this object—viz., the solid, or nearly solid sac was pressed against the artery from which it sprung, or against the orifice by which the sac communicated with the artery, in consequence of which the stream of blood which entered the sac was much diminished in amount and force, the disposition of fibrine then went on rapidly until the sac and artery at the part were obstructed; when, of course, the pulsation ceased.

Although "no principle of practice could be established" upon such cases, as long as the old theory respecting the cure of aneurism continued to be entertained, yet now that it has been proved that the cessation of pulsation in an aneurism is brought about by the deposition of fibrine in the sac, not by the coagulation of its contents, they afford us a useful practical hint in the application of pressure. For instance, after compression has been kept up for a time, if the sac becomes hard to the feel, and does not increase in size on the removal of the instrument, (although it still continues to pulsate,) we may then apply local pressure to the aneurism, by means of a compress upon the sac, with every prospect of effecting a cure more quickly than if we continued to make the pressure solely upon the artery above.—*Dub. Med. Press.*

SURGICAL SOCIETY OF IRELAND.

Foreign Bodies in the Eye. By Dr. Jacob.—Professor Jacob begged to bring under the notice of the society a small matter of which he had no written statement, but which he considered not destitute of pathological interest. The specimen he had to show was one of a foreign body projected into the eye, which he remarked was not unique, for some cases of the kind were on record. In breaking or dressing stones, it frequently happens to stone-cutters and others that a particle of the stone is driven with considerable force into the eye. This it was that happened in the case to which he was about to direct the attention of the society. A particle of stone had been so projected, and lay in the anterior chamber between the cornea and iris, but the interesting fact connected with this was that it should have remained in that situation for four years without having effected the

destruction of the organ. He had extracted it the other day, and had every hope that he would ultimately be able to save the eye. The lens is opaque, and the pupil eccentric, and it will probably be yet necessary to break up the lens more effectually than could have been done in the course of the operation of removing the foreign body. In cases of this kind, those men most often suffer who are employed in dressing mill-stones, cutting or breaking siliceous rocks; such accidents seldom occurring from cutting granite or lime-stone. The fragment in the present case was at least a fourth of an inch long and a sixth in diameter, and very sharp. Cases in which foreign bodies of this description had passed into the eye without destroying it, have (Professor Jacob observed) been recorded by Mackenzie, Lawrence, Wardrop, and others, so that, as he had before remarked, there was nothing very new in the case now before the society, but its pathological interest he considered of the first importance, showing as it does that when a foreign body of such a description finds its way into, and remains for such a lengthened period, in an organ of all others in the body so profusely supplied with nerves and vessels without causing its destruction, it need not to be considered necessary to search with such anxiety after foreign substances that find their way into other and so much less important parts of the body, under the apprehension that they will make their way eventually to the surface, instead of which they often remain at rest after a little time, if the part be kept quiet.

Another case had come under his care some years ago: it was that of a little boy into whose eye a portion of a copper gun-cap had passed through the pupil, and lodged in the crystalline lens itself, where it lay without producing any distress or mischief for two or three years. But the very curious fact connected with it was, that the copper never lost any of its metallic brilliancy, and never became even in the slightest degree corroded or oxidated. This case he temporized with, and the sequel proved very instructive; the lens became absorbed, and the bit of copper got entangled in the opaque capsule, and believing that it might not be possible to extract it, the patient being young and unmanageable, he still continued to temporize with the case, and lost sight of the boy for some time.

In about a year after, however, he again came under his notice, and now the copper cap had disappeared, and the anterior and posterior chambers were filled with blood, as if from some recent injury. The pupil was dilated, but the eye was spoiled. The cap being nowhere visible, it was probable that it had fallen to the bottom of the eye. so Professor Jacob considered it better to leave the eye alone, and the case was lost sight of. It is not alone in the anterior chamber, or in contact with the iris or crystalline lens, that bodies of this kind stick, but sometimes under the conjunctiva itself, though (Professor Jacob observed) from the toughness of the parts, it did not often happen; this, however, occurred in the case of a young lady, whose younger brother, in playing with a toy-gun, drove a portion of the cap into her eye, where it lay under the conjunctiva, its situation

being indicated by a small blackish tumour underneath that membrane. Having felt the little body with the point of a needle, he was enabled to remove it with the scissors without difficulty. In this case the foreign body had lain for nine months without producing any material mischief. Many instances are recorded in which bits of straw, pieces of rush, twigs, and such matters, become impacted, and where (Professor Jacob observed) one would never suppose they could lie quietly for any time, and that not alone beneath the conjunctiva, but in the fold of reflection of this membrane to the upper lid. Here they sometimes lie without attracting any attention until the production of a fungous tumour over the foreign body brings the case under the notice of the practitioner. A gentleman presented himself under circumstances of this kind to him, and on attempting to remove the tumour with a fine pair of scissors, he found that he could not do so in consequence of some hard unyielding material, which he extracted after snipping off the tip, and which proved to be a portion of the flowering part of a rush half an inch long, which had probably been driven into the part some months before ; the patient having had a fall from his horse in the field about that time.

Now, (Professor Jacob observed) the question suggests itself as to how cases of this kind are to be dealt with ; should they be temporized with ? This he considers we are perfectly justified in doing if the body has lain quietly for a considerable time, and more especially, if it be exceedingly small ; but if the foreign body is the source of a certain amount of irritation, the distress experienced will of course compel the surgeon at once to remove it. In the case first alluded to, and a specimen of which had been sent round, there had been, as he had stated, a great deal of inflammation, followed by an eccentric pupil and opaque lens, yet no shrinking of the eyeball or other indication of destructive inflammation. With respect to the mode of procedure for the removal of foreign bodies in the interior of the eye, Professor Jacob would recommend the method pursued in the case of the fragment in the anterior chamber, so little effusion or distress had followed upon it. In such a case it is supposed that it is only necessary to make an incision in the cornea, and let the foreign body pass out as the lens would in extraction ; the operation is, however, attended with greater difficulty than might at first sight be expected.

In the first place, if recently lodged in the eye, a good deal of difficulty attends its extraction. It is stated by Lawrence, Tyrrel, and others—though he (Professor Jacob) was not satisfied of the fact—that these bodies become adherent, that they become imbedded or enveloped in lymph. This, to be sure, one might expect, arguing from what occurs in other parts of the body under similar circumstances, but such was not the result of his experience ; for instance, in the case under consideration, the particle of stone was perfectly clean and as distinctly visible in the anterior chamber, as if placed for examination in a drop of water. There was positively no lymphy coating either on the stone or in the case of the copper-cap ; indeed, he could not clearly see where the lymph was to come from ; if

lymph were shed, it would of course be the result of inflammatory action, and the foreign body would become adherent in consequence.

He would not, as he had said, deny that such might have occurred in other hands, but it was not so with him, and perhaps the statement was made by others under the conviction that a foreign body could scarcely remain in such a situation without becoming encysted. At the same time in the operation of extracting such substances it is well to be aware that they may be and probably often are adherent. In proceeding to extract them, as a general rule he would say, that the incision should be as large as possible, for the difference of mischief to the eye, between a small and large incision, is as nothing compared with the difficulty of dragging the foreign body through a small orifice. This will more particularly be necessary if the foreign body be a stone, as happened in the case now described, in which it was only after a second or third trial that Professor Jacob was enabled to extract it. Having waited between each attempt at extraction for the patient to become composed, and the spasmodic action of the muscles to subside, he was at length enabled to remove the fragment with the aid of the curette, and not without a good deal of force employed in disentangling it, for the little body was no doubt adherent, though not at all imbedded or encysted. Notwithstanding a good deal of violence having necessarily been employed, the case is going on well, there being no inflammation, such as would lead to the destruction of the organ. The man has already so much vision as to satisfy Professor Jacob that ultimately the eye will enjoy a useful amount of it. At the stage of his remarks, Professor Jacob said, it became a question for consideration whether in cases of this kind seen immediately after the accident, the practitioner would proceed at once to the removal of the foreign body. By all means, he would say, if he sees the case in the course of the day upon which the mischief has been done, it ought, if possible, to be removed at once, and this may sometimes be effected with the greatest facility, while in other cases the greatest difficulty is encountered. Thus it will happen that to remove a body lying in the anterior chamber there is nothing to be done but to pass the knife, cut through the edge of the cornea, and the foreign body immediately drops out; but in other instances, in spite of the utmost caution, it falls backwards into a fold of the iris, and entirely disappears from view; following it, however, with the curette, the extraction may be effected, notwithstanding that the lids are squeezed up, and every effort made by the patient to turn the eye away from the operator. In this college, many years ago, (Professor Jacob said) a case of this kind occurred in a pupil of the institution, who, while at work in the laboratory, had a splinter of glass driven into his eye from the bursting of a glass vessel. The particle passed through the cornea, and on seeing him immediately after, Professor Jacob observed the bit of glass lying in the anterior chamber, with one point resting against the cornea, and the other against the iris. Having made a considerable opening with the extracting knife, the foreign body almost disappeared at first, having fallen into the fold of

the iris, but with the curette he was fortunately enabled to lift it up, and the extraction was made without any subsequent injury to the organ. This case occurred in a gentleman who is at present a fellow of the college.

Professor Jacob next alluded to the minute foreign bodies which so frequently become fixed in the cornea, and which cause so much trouble to the practitioner in this country. where stone-cutting, quarrying, and stone-breaking is so common; and when, as elsewhere, so many working at the anvil, bench, and lathe, are liable to such accidents.

The foreign bodies in these cases (Professor Jacob observed) are either particles of the steel of the instruments used by the workmen, or portions of the stone itself, but in nine cases out of ten they are particles of the steel, and it becomes of importance to ascertain in what state the steel is at the time. As regards the difficulty of removal, a great deal depends on the size of the particle, which is sometimes wonderfully minute, so much so as to become scarcely visible after a great deal of trouble and minute examination, and occasionally only with the assistance of a lens of two and a half inch focus, after twisting and turning the eye up and down, in and out, in all directions. Yet so small a particle will be productive of the greatest mischief. In general those particles may be removed with great ease, requiring only to be touched with the point of a blunt instrument very cautiously, such as the handle of a camel-hair pencil, pared down very fine, or the convex part of his own cataract needle. If only adherent to the conjunctival layer, the particle slips off by the gentlest means, and if that does not succeed, or if the foreign body is more deeply imbedded, if it has got into the structure of the cornea, its removal is more difficult. If the foreign body has been projected with violence, and has become imbedded in the cornea itself, it must be lifted out of it. The point of the needle should be held within a very short distance of the foreign body before it touches the cornea, waiting quietly until the eye becomes steady; it should then be struck in beneath it, and the particle dug up, if not detached, by gentler means. The operator should never give up until he has fairly lifted it from its situation. Many surgeons at the other side of the water—among whom is so high an authority as Mr. Lawrence—recommend such cases to be left to nature, saying that a little spot of ulceration is formed round the foreign body which thus becomes washed away by the secretion of the tears; but this ulcer will ultimately leave behind it an opacity. As regards those cases in which small particles of steel have been projected into the cornea, and the particles so dissolved away that only a small portion of the oxide adheres to a speck of ulceration, this is to be removed with a few touches of the point of the needle, so as to prevent the occurrence of any permanent opacity. But of all circumstances connected with this subject (Professor Jacob observed) that which is of paramount importance to the practitioner refers to the condition of his patient's general health at the time of the accident. In this country these ac-

cidents to the eye are in themselves generally trivial, but the worst results sometimes occur to the subjects of them from an unhealthy state of the constitution. He had known total blindness to occur in stone-breakers from this cause much oftener than would be believed. Even when the foreign body is got rid of a destructive inflammatory process is set up under these circumstances which ends in the loss of the eye. A whitish sloughy ulceration takes place in the injured part, purulent matter is deposited in the anterior chamber, and at last the sloughy ulceration extends through the cornea.

To prevent or remedy this, attention must be paid to the state of the digestive organs and health in general. A yellow coated tongue is a sure indication of that state of constitution in general, and gastric organs in particular, which leads almost with certainty to this state of things, and this must be remedied by the usual medicinal and dietetic remedies, recollecting that such cases seldom bear or require depletion.

The learned professor concluded by apologizing for the length of time that he had occupied the attention of the society. He would, he said, not have gone so much in detail upon the subject, but that there are so many practical points connected with it, not always to be found in books, and upon which he had hopes of eliciting observations from the gentlemen present, which would throw additional light on the subject.

Mr. M'Coy mentioned the case of a young female who had come under his care for a painful abscess of the lower jaw. While examining her face he observed a bright silver-like looking body adhering to the iris. Her mother stated her age to be eighteen, and that the speck alluded to had always been in the eye, at least since she was a child; on further inquiry, however, it appeared that many years ago, while playing tricks on Hallow Eve, a particle of melted lead had flown into the eye, which latter became closed for two or three days, but no further inconvenience resulted from the accident. There remained no trace of wound or injury of the cornea, nothing but the brilliant little body just described, whose measurement was about a line in one way and half a line in the other. The circumstance (Mr. McCoy observed) appeared remarkable in two points of view—first, that the substance at the moment of its penetrating the cornea must have been very hot, yet upon examination there was not the slightest trace of lymphy exudation into the corneal structure; secondly, the body having for such a length of time retained its brilliancy.

Professor Jacob.—What Mr. M'Coy has just stated, one would at first sight say was a very improbable occurrence—namely, the projection of a particle of lead into the eye without producing great destruction. Again, the great improbability of a particle of such a body as lead being projected with such a degree of violence as to penetrate the cornea, and be deposited in the anterior chamber. Yet he was inclined entirely to agree with Mr. M'Coy as to the facts of the case. Particles of melted lead thrown upon water are sometimes cast up with great force, and he had known instances in which children have

had particles of melted lead thrown into the eye and retained beneath the lid, while persons were unaware of their presence there. In one such case, were a good deal of distress and mischief had been produced, he had removed after some weeks a portion of lead which had evidently found its way under the lid in a melted condition.

Dr. Hargrave wished, while engaged on this subject, to ask Professor Jacob what means he was in the habit of using for examining the fold of conjunctiva lying between the globe of the eye and upper lid. He recollected the case of a young man in respectable life who had been treated very actively for acute inflammation of the eye, and who maintained himself that a particle of the bearded portion of barley had got into his eye, but on the most careful examination nothing of the kind could be detected. On seeing him some time after, there was still a good deal of distress, accompanied by symptoms resembling chronic inflammation, and the patient still insisted on the presence of the foreign body. Dr. Hargrave could scarcely credit this statement, knowing how accurately he had searched for it before, yet upon again examining closely, a bit of the bearded barley, half an inch in length, was found completely impacted in the fold of conjunctiva just alluded to. The great difficulty of examination in these cases arises from the spasmodic action of the orbicularis muscle, which was found to be equally uncontrollable either in the very young, the middle aged, or the old. He would beg to express his admiration of the truly practical and valuable remarks of Professor Jacob on the subject under discussion.

Professor Jacob said the suggestion made by Dr. Hargrave respecting the impaction of foreign bodies and the difficulty of their removal from the situation indicated, was a very important one. Examples of the kind are recorded by Scarpa, Monteith, &c., and a case is mentioned by Mackenzie in which a portion of straw had become impacted in the sulcus alluded to. By the same author the case of a child is mentioned in whose eye a common fly had got entangled, followed by a great deal of mischief. He would say that the most feasible way to remove such would be to carry the curette slowly round between the eyeball and orbit. In such a case he thought it would be better not to evert the lid. By a little nice and dexterous management on the part of the surgeon, he was of opinion that even the smallest specks could be detected and removed.

Dr. Bigger suggested a mode of removing foreign bodies (not impacted) in this situation. The method is one proposed by an authority who has written on this subject, and by whom it had been successfully applied on many occasions. It is simply this: on raising the upper lid which conceals the foreign body, the struggles of the patient cause the lashes of the lower lid to approximate the globe, and the foreign body falling down becomes entangled in them, and thus carried out of the eye. Dr. Bigger had frequently tried this method with success in children, but of course if the body be impacted, additional means of extraction will be found necessary.

Professor Apjohn observed in reference to one particular point alluded to in the discussion of this very practical subject—viz., the preservation of their natural brilliancy by the little metallic bodies projected into the eye in those cases, that the explanation appeared to him to be as follows. The liquid in which the foreign body is immersed is totally devoid of free oxygen—it is, in fact, alkaline. Thus the body lying in a fluid which, unlike common water, contains neither air nor oxygen in a gaseous condition, maintains its characteristic lustre. If a piece of metal were placed in a vessel hermetically sealed, so as entirely to expel the air, its brilliancy might be preserved for any length of time, and the bit of metal in the cases alluded to might be looked on as placed very much in that predicament.

The Vice President expressed his admiration of the very valuable communication made by Professor Jacob; the observations which fell from that gentleman were, he said, ten times the more valuable because they were of such a nature as cannot be conveyed in books. He (Mr. Cusack) felt desirous to know Professor Jacob's opinion upon the difference in the state of oxydation of these metallic particles as seated in the interior of the eye or only under the conjunctiva; for it appeared to him that in the latter case the thinness of the mucous membrane rendered it perhaps not altogether impermeable to atmospheric air. For instance, many years ago it had happened to him in the case of a person admitted to the hospital for chronic inflammation of the eye, when turning up the lid for the purpose of examination, to observe something black in the corner of the eye. Examination with a probe proved it to be a metallic substance, and it appeared to Mr. Cusack, when pressed on, to be lodged in the substance of the eye itself. The history was as follows:—The man had some time before had, in a scuffle, a fork thrown at him, which consisted of but one prong. This it appears having passed through the eye, was broken off, leaving the small portion, which was now visible, projecting at the inner canthus and edge of the upper lid. It was difficult (Mr. Cusack remarked) to conceive how the fork should have taken such a direction, unless we suppose the person hit to have been placed in a position above that of the aggressor, and it is with this supposition only that we can account for the orbital plate of the frontal bone having escaped penetration under the circumstances. Another circumstance in Professor Jacob's remarks must (Mr. Cusack observed) have struck the students amongst the audience as a very peculiar feature in connection with this subject—namely, the intense sensibility of the conjunctival membrane and the acute attacks of inflammation it undergoes from comparatively trivial causes, while the eye itself can be subjected to so much violence. As an example of this intense degree of sensibility on the part of the conjunctiva, Mr. Cusack mentioned the case of a gentleman of rank into whose eye a fly had passed, and got impacted under the conjunctiva; this was a source of suffering for a length of time until discovered by a practitioner of acute observation.—*Dublin Medical Press.*

PATHOLOGICAL SOCIETY OF LONDON.

Mr. Ebenezer Smith exhibited a fœtal heart, presenting ***Premature Occlusion of the Foramen Ovale; diseased Mitral Valve; contracted left Heart; large Pulmonary Artery and Duct.***

The preparation was accompanied with diagrams. The following is the history connected with the case:—

A small infant, the seventh of healthy children by the same parents, was born on Oct. 20th, 1846. His mother had noticed unnatural quietude during the last three months of gestation. Its birth was natural, the head, body, and limbs, well developed, and of the usual colour, till, in about five minutes after it first breathed, its face became dark blue, and the respiration difficult. The ligature on the umbilical cord was untied, but no blood flowed; the skin soon became similarly blue; and the respiration very difficult and irregular; the heart beat about 130 in a minute, clearly and strongly; the temperature appeared natural. In eight or ten hours apoplexy came on, the cyanosis being universal, the right arm paralyzed, and the left convulsively contracted. In sixteen hours the child was perfectly comatose, and it died twenty-one hours after birth.

Inspection, twenty-four hours after death.—The body full grown, well proportioned; skin marbled with large dark and white patches; pericardium contained two or three drachms of serum; the lungs about the usual size, full of dark blood, slightly emphysematous anteriorly; the liver apparently healthy; umbilical vein pervious and empty; venæ cavæ capacious; heart rather more vertical than natural, smaller and narrower in consequence of flatness of the left ventricle; both venæ cavæ, the right heart, and coronary veins, engorged. On the opening of the right auricle, which was distended, and of the usual form, the fossa ovali was seen in its natural position, but closed by a strong reticulated membrane firmly attached to its distinct annulus, impervious and pouched. A probe could be passed down to the left three lines into a considerable impervious inter-auricular fossa. Below the fossa ovalis, a mere vestige of the Eustachian valve; valves of the coronary vein distinct; the right auriculo-ventricular opening large, patent, and furnished with a very good valve, differing in form from the usual shape of the tricuspid, but with distinct, fixed and distended columns and curtains, and moderator bands, as demonstrated by Mr. Wilkinson King; walls of the right ventricle rather hypertrophied, the cavity being large, and not only descending to the apex, but curving round the left ventricle, so as alone to form the apex of the heart: no inter-ventricular communication whatever. The pulmonary artery very large, and three and a half lines wide at its origin; a little above its origin, more than four lines; its valves being perfect; it gave off, in the usual situation, branches to the right and left lung, and was then continued perpendicularly upwards, in a scarcely diminished trunk, the ductus arteriosus to the under surface of the aortic arch, nearly opposite the left subclavian, so that the blood from it would flow, not only into the descending aorta, but upwards, and somewhat contrary to its previous direction,

into the arteries of the head and arms. The four pulmonary veins entered the left auricle, as usual. This cavity was well developed, being wide transversely, and constricted vertically, having a very large muscular appendage. The complete membrane covering the fossa ovalis was here also quite distinct and impervious, and could be readily pushed towards the right auricle; the auriculo-ventricular opening extremely contracted, being but one line and a half in diameter. The mitral valve was altogether defective in structure, and seemed to have been faulty in action; it consisted of two very small, whitish, tendinous bands, fixed, the one to the septum, in front, the other to the posterior wall of the ventricle, without any curtains or fleshy bands, which, it seemed, could not have been opposed so as to prevent the reflux of the blood into the auricle. The left ventricle almost obliterated; its walls contracted on a small cavity at the base, not exceeding two or three lines in diameter, lined by a very dense, smooth membrane. The aortic opening also much contracted, being about two lines wide; the sigmoid valves perfect; the aorta itself normal in its course, giving off normal branches, but the ascending and transverse portion of the arch considerably smaller than the pulmonary artery, measuring, at its origin, three lines in diameter, and opposite the left carotid, just before receiving the arterial duct, two plies and a quarter; the descending aorta, after receiving the arterial duct, measuring two lines and three-quarters. The arterial duct continued almost perpendicularly upwards into a large trunk, to nearly opposite the left subclavian.

Thus, during the life of the child "in utero," the systemic circulation was maintained by the increased development and perfect mechanism of the right heart and vessels, notwithstanding the useless mitral valve, the arrested development of the left heart and aorta, and the strongly closed foramen ovale. On the assumption, however, by the lungs, of their proper action, the quantity of blood received by them was obstructed in its return by the defective mitral valve, &c., respiration became embarrassed, the free circulation of blood in the brain impeded, and death from apoplexy resulted. Mr. Smith remarked that two points of especial interest arose out of this example of malformation of the heart. The first was,—Which was the primary cause? Did the premature closure of the foramen ovale increase the activity of the right heart and vessels so as to carry on the circulation of the system, and arrest the development of the left heart, and particularly the mitral valve? Or, was the diseased action first manifested in the mitral valve, which, producing an utterly defective valvular structure, stayed the blood in its course through the left heart, and presuming the valve of Botal to be early and well developed, thereby pressed that valve against its margin, so as to cause its firm occlusion?

Judging from what appeared to be merely the vertigiform structure of the mitral valve, and from indications that the left auricle had once been more capacious, and had subsequently become constricted, Mr. Smith inferred that about the fifth month the mitral valve became

inadequate to the systemic heart of the growing fœtus, obstruction and embarrassment followed, so as to produce astasis of blood in the left cavities; increased energy, perhaps inflammation, of these structures ensued, which resulted in a closure of the foramen ovale. The ductus arteriosus being open, the energies of the right heart produced so perfect a development of its parts and connected vessels, as to maintain the systemic circulation; and hence, the left heart and ascending aorta being comparatively useless, contracted in their size. This view of the state of the left heart, exclusive, however, of the condition of the mitral valve, he thought was consistent with the other theory,—that premature closure of the foramen ovale was the first link in the chain of morbid occurrences.

The second point, as urged by Dr. Norman Chevers, "That a closed foramen ovale is not a proof in jurisprudence that a child has lived;" for in this case the occlusion must have existed long before birth. The preparation is deposited in the museum of Guy's Hospital.

Dr. Peacock exhibited three specimens of *Malformation of the Heart.*

In the first case, there existed extreme contraction of the orifice of the pulmonary artery, with a deficiency in the interventricular septum, and the aorta arose in chief part from the right ventricle. The right auricle and ventricle were of large size, and the walls of the latter thick and very firm. The left ventricle was, on the contrary, small, and its walls thin and flaccid. The left auricle was also small. The foramen ovale and ductus arteriosus were both closed. The heart was taken from a child two years and five months old, who had exhibited well marked symptoms of cyanosis, which commenced three months after birth. Dr. Peacock remarked that though the cases are numerous in which, with more or less contraction of the orifice of the pulmonary artery, the septum of the ventricles was deficient, it is far from frequent to meet with these malformations, with, as in this case, a closed state of the foramen ovale; and especially so when there is great contraction of the pulmonary artery.

The second case was one in which the only departure from healthy conformation of the heart consisted in the small size of the arteries distributed to the lungs; in consequence of which, the trunk and orifice of the pulmonary artery and the right ventricle were unusually large, and the foramen ovale imperfectly closed; the left ventricle and aorta being small. The heart was taken from a child of ten weeks, which had displayed slight cyanosis during life.

The third specimen was a heart taken from a girl of ten or eleven years of age, with whose history Dr. Peacock was unacqaainted. The interesting points in this case were, first, a deficiency of the base of the inter-auricular septum, with a perfect closure of the foramen ovale. The deficient space allowed of free communication between the two auricles, so that there could only be said to be one auriculo-ventricular aperture. 2ndly. A distinctly tricuspid form of the left auriculo-

ventricular valve; and 3rdly, a deficiency at the base of the septum of the ventricles, closed by an extension of the anterior fold of the left auriculo-ventricular valve, and the subsequent expansion of this membrane into a small sac, having an aperture communicating with the cavity of the right auricle. Dr. Peacock suggested, that had this patient survived a few years longer, the sac and the opening into the auricles would doubtless have enlarged, and have assumed, both in the symptoms during life, and the appearances after death, a very close resemblance to a true aneurism of the undefended space of the base of the ventricular septum, which had opened into the right auricle.

Mr. Crisp exhibited two specimens of *Diseased Heart.*

The first Mr. Crisp believed to be one of "concentric hypertrophy of the left ventricle." The specimen was taken from a woman aged seventy-nine. She was only seen twice before death, and then appeared to be in great pain, but owing to mental imbecility, was unable to describe her symptoms.

Nothing remarkable was observed about the thoracic or abdominal viscera: the thoracic aorta and branches being more than usually healthy. The abdominal aorta, for three inches above its bifurcation, was converted into a firm bony cylinder. The right internal iliac nearly impervious from ossific deposit; the left less ossified: the common and internal iliacs were tolerably heathy. In the lower part of the thoracic aorta was a dense fibrinous coagulum, occupying the calibre of the vessel, but not adhering to its sides. It was composed principally of fibrin, with a few blood globules.

Case 2.—The patient from whom this heart was taken first came under Mr. Crisp's care in April, 1841, when he was fifty-six years of age. His health before this period had been tolerably good, with the exception of slight attacks of difficulty of breathing. (His father died suddenly of angina pectoris, at the age of fifty-five.) At that time he suffered from great difficulty of breathing, which came on suddenly, pain and sense of oppression at the præcordia; pulse irregular; heart's sounds normal, but its impulse increased; pain in the left arm, extending to the elbow, and sometimes affecting the little and ring fingers; he had also violent pain in the epigastrium, so as to induce him to suppose that he was passing gall-stones, although none could be discovered in the evacuations. These symptoms continued for several days; he was bled from the arm, leeches and fomentations were applied to the side, and small doses of mercury given, so as slightly to affect the gums. He gradually improved in health, and was able to resume his usual avocations; he suffered, however, from frequent attacks of angina pectoris, and the pain in the left arm and fingers was at times very severe, lasting occasionally for four or five days; latterly, he had pain also in the right arm and shoulder. About eighteen months since, he suffered from acute pain in the left side, and a few days afterwards, a small calculus was voided with the urine. Of late, his health had been better than usual.

Three days before his death he complained of excruciating pain in

the left arm and little finger, which was somewhat relieved by warm applications, but it soon returned. He also complained of a sense of oppression in the region of the heart—"as if (to use his own expression) the heart had been bound down." (The pain and oppression varied in severity, but continued more or less to the time of his death.) The pulse was about the same as usual, except during the acute attacks of pain, when it was quickened and less bounding. He retired to bed about half-past ten on the night previous to his death, slept for five or six hours, and in the morning expressed himself easier than he had been for two or three days. He was able to dress and shave himself, and walk down stairs; and whilst in the act of getting his breakfast, his head suddenly fell forward, and he died instantaneously.

Examination, twenty-two hours after death.—Body warm; blood fluid; face very pallid; great abundance of fat, about three inches in thickness, on the abdominal parietes.—*Chest:* Numerous pleuritic adhesions on the left side. Both lungs gorged with black blood, especially the left, but the blood was confined to its proper vessels. The heart was large and flabby, (weight about fourteen ounces.) Both the coronary arteries were ossified in various parts, in some places so as to form a bony cylinder; the left ventricle dilated; both auriculo-ventricular openings large; but the mitral and tricuspid valves appeared to have performed their proper functions. The aorta was of its usual calibre, but it contained numerous elevated patches of cartilaginous and atheromatous deposit, as well as three bony plates; its colour natural. Liver large, but its structure apparently healthy. The gall-bladder filled with calculi, and its duct impervious, (as in the case which was related to this Society by Mr. Crisp a few weeks since.) Right kidney double its natural size; left, small; pelvis of both congested; the right contained a small phosphatic calculus. Brain not examined.

Dr. F. H. Ramsbotham presented an *Infant's heart, possessing only one Auricle and one Ventricle.*

It was situated in its natural position in the chest. The auricle was separated from the ventricle by tendinous valves. There was only one artery, the aorta, arising from the ventricle, which sent off a vessel in the situation of the ductus arteriosus. This artery divided into two branches, which supplied the lungs. The venæ cavæ and the two right pulmonary veins entered the auricle in their ordinary positions and directions, the pulmonary veins of the left side forming one common trunk before their termination in the auricle. The vena cava inferior, however, had been destroyed by opening the auricle, and the branch passing from the aorta, which divided into the pulmonary arteries, had unfortunately been cut away in removing the heart from the body.

The child was of full time, well developed, and lived ten days. The late Dr. Combe, who attended it during its short life, stated that cyanosis was perfect over the whole body, but that neither the respi-

ration, temperature, nor muscular action, were materially affected. This preparation is mentioned by Dr. Farre, in his work on the "Malformations of the Human Heart;" and a detailed description of it, accompanied by two figures, is given in the ninety-fifth volume of the *Philosophical Transactions*, at page 228.—*London Lancet.*

Erysipelas of Newborn Children By Prof. Trousseau.—This is one of the most dangerous maladies which can affect the newborn child, not only in hospitals but in private practice; it is almost invariably fatal, particularly during the first month of extra-uterine life. Its danger gradually decreases as the child grows older; but still, after the fourth month, about one-half of the infants affected with it sink under its symptoms. The first appearance of this malady is treacherously insignificant: the child has merely lost a little of his good humour; his sleep is slightly diminished, and he sucks rather less than before; at the same time the skin of the pubes is the seat of a small red patch, painful to pressure; the redness gradually gains in extent on the body and limbs, and is occasionally disseminated; but when, in their turn, the foot and hand become affected, they acquire a degree of swelling and redness far greater than that assumed by the eruption in any other region. The genital organs sometimes sphacelate, in consequence of the local inflammation, and in many cases acquire an emphysematous appearance. The pubes is not the only part from which the erysipelas may take its departure: it has been observed to arise from the redness which surrounds the vaccine pustule, less frequently from any accidental laceration of the skin, or from any one of those divisions so common in the inguinal or other cutaneous folds. The general symptoms are interesting in many respects, and amongst others, because their mildness almost inevitably leads the unwary to commit errors of prognosis, which in private practice are neither forgotten nor forgiven. At first the disease appears perfectly local; it is not until several days have elapsed that general uneasiness and crossness show themselves. The colour of the skin, the expression of the countenance, often remain for some days perfectly satisfactory, when suddenly an ashy cadaverous paleness is observed, and with that degree of intensity that the child seems to be sinking under copious hemorrhage. The cry becomes incessant, jactitation continual, and loss of sleep absolute. These signs are followed by deep stupor and death; the pulse is at first frequent, and the heat of the skin ceases only during the terminal and fatal stupor. Convulsions, diarrhœa, and vomiting are very seldom met with. When the progress is such as we have described, peritonitis has occurred—a frequent disease in children, and one which has not been hitherto described. The duration of the disease varies considerably, sometimes being frightfully short, at others, on the contrary, being prolonged so far as three weeks.

On *post-mortem* examination the cutaneous alterations are occasionally the only changes observed; but when peritonitis (a frequent complication) has been present, the umbilical vein is often found in-

flamed and filled with pus as far as the transversal furrow of the liver, and inflammatory secretions are found on the peritoneal surface of the abdominal viscera.

Of the probable cause of the malady we may say this much, that we observe it principally when an ill wind of puerperal fever blows over the lying-in hospitals of Paris. The children seem to have inherited from their mother a purulent diathesis, and they appear still to be within certain limits subject to the same ailments as the mother, whose constitution has so lately been theirs. The peritonitis of the children may be, therefore, as aptly termed puerperal as that of the mother, because its general cause is to be sought for in the circumstances which have accompanied the last stage of child-bearing and parturition. It is natural that the skin should be the seat of disease, because that surface has been so lately called to perform functions as new as they are important; in such children the unbilical cicatrix does not form readily, and is sometimes the occasional, the local, cause of the cutaneous disturbance. With regard to the treatment, we have tried almost every local application imaginable, and without success; ointments, lotions, blisters—even the actual cautery—without suspending the progress of the disease. Three cases only have we seen recover during the first month under the use of the ethereal solution of camphor, and of baths containing corrosive sublimate; but in how many have we not since tried the same methods without the slighest benefit! —*London Medical Times.*

Lectures on Distortion of the Spine not connected with Caries, delivered in the Theatre of St. George's Hospital. By Sir B. C. Brodie, Bart. F. R. S.—In a person of what is called a good figure, when the feet rest on the ground with the heels in contact, the lower limbs being straight, and the upper limbs occupying the same position on the sides, the spine rises perpendicularly in the same line with the *os sacrum*, and making on each side the same angle with the pelvis; the centre of gravity being somewhere in the middle line of the body. Whatever causes the centre of cavity to shift its place so as to be on one side of the central line, will necessarily cause some alteration in the position of the spine. A heavy weight in one pocket, or held in one hand, where there is none in the other; the greater height of the heel of one shoe, or an unequal leaning on the two lower limbs: even such trivial matters as these will occasion more or less of lateral deviation of the spine. If from any cause whatever, the centre of gravity be moved far away from the spine, the individual would necessarily fall to the ground if he were not to make an effort to prevent it. The result of that effort is, that, while the cause first in operation, whatever that may be, produces a bending to one side in one part of the spine, by the action of the muscles another part of the spine is bent in the opposite direction: and thus, in all cases in which a lateral curvature exists, the curvature is double, the whole spine assuming a form which is usually, and not very inaptly, com-

pared to that of the italic *S*. The degree of such curvature of course varies in different cases. In many persons it is so trifling as to be scarcely perceptible, in others it is so considerable as to become a great and obvious deformity.

From whatever cause the spine becomes affected with a lateral curvature, it cannot but happen that the effects of it should extend to other parts of the trunk. The ribs corresponding to the convex side of the curvature are at their anterior extremities separated from each other by a wider interval than is natural, while on the opposite side they are, as it were, squeezed together, and compressed into a smaller compass. The *os ilium* of one side appear to be more prominent than that of the other; and there is a corresponding change in the appearance of the scapula, and clavicles, and even of the sternum. I notice these changes only briefly at present; I' shall explain them more particularly hereafter.

No part of the body can be permanently displaced without undergoing an alteration in its figure. In a case of unreduced dislocation of the humerus, the old glenoid cavity is absorbed, and a new articulating surface is generated on the lower margin of the scapula, while the head of the humerus becomes reduced in size, and otherwise altered so as to correspond to the parts with which it is now in apposition. In like manner, in an established case of lateral curvature of the spine, the bodies of the vertebræ are found reduced in thickness on one side, increased in thickness on the other; the ribs bulge unnaturally in one place, and are unnaturally depressed in another: and corresponding changes takes place in the clavicles and sternum, and even in the scapulæ. These changes are produced the more readily, because when lateral curvature exists it almost invariably begins to show itself in early life, while the process of growth is going on. These facts should be borne in mind, with a reference to practice. As deviations from the natural figure occur with more facility during the period of growth, so is the restoration of the natural figure more easily obtained during the same period also. The treatment of the disease cannot be begun too soon after the first signs of spinal curvature are perceptible, and little or no benefit can arise from the continuance of the treatment after the period of growth is completed.

Having made these preliminary observations, I am better enabled to explain to you the various circumstances in which lateral curvature of the spine may have its origin.

If one lower limb be shorter than the other, the ilium on that side (both feet being planted equally on the ground) must necessarily be depressed. and a double curvature of the spine is the consequence, produced in the manner which I have already mentioned; that is, one by the altered position of the pelvis, the other by the muscular effort which the patient makes to keep the centre of gravity in its proper place.

A difference in the length of the two limbs is in some instances the result of original formation. I have had young persons brought to me because one shoulder was observed to be higher than the other,

(this being usually the first thing observed in the commencement of a lateral curvature of a spine,) and in whom I have found the *femur and tibia* on one side respectively shorter than the *femur and tibia* of the other, although there neither were at the time, nor had been previously, any indications of disease in either limb. At other times, however, the difference in the length of the femur or tibia is clearly to be traced to disease. A diseased bone may grow less rapidly than the corresponding bone which remains in a healthy state. Thus, in a case of scrofulous affection of the bones of one finger, it is very common for the finger thus affected not to grow at all, while the other fingers grow as usual. The reverse of this also may happen, and the diseased bone in certain cases becomes actually longer than its fellow of the opposite side. So it was in two cases of necrosis of the femur, of which I have preserved notes, and which had in consequence been mistaken for cases of disease of the hip-joint. Now, in such cases as these which I have just described, it must be evident to you that the only thing to be done is to endeavor to equalise the length of the limbs by making the sole of one shoe thicker than that of the other. Nothing done to the spine itself can be of the smallest service. Indeed, for the most part, in these cases, the curvature of the spine is trifling. The addition of a very little cork to the sole of one shoe will be sufficient to prevent its being observed at all: and a clever shoemaker will easily manage so that the difference of the two shoes will be imperceptible also.

Those last observations will apply equally to another class of cases, in which, after fracture of the femur, or even of the tibia, the limb is shortened, and curvature of the spine is the consequence. Nothing done to the limb can restore its proper length, and nothing done to the spine itself can restore its proper figure. A thick sole to the shoe is the only remedy.

In a young person who has recovered from disease of the hip-joint after the formation of abscess, (and in some cases even where suppuration has not taken place,) the limb on the side of the disease is left considerably shortened. The shortening of the limb is sometimes the consequence of actual dislocation; at other times it arises from the margin of the acetabulum having been destroyed by ulceration, or from a partial destruction of the head of the femur, the limb being afterwards drawn upward by the action of the glutæi muscles. In whatever way the shortening of the limb is produced, it necessarily happens that as soon as the patient begins to walk the spine becomes distorted. There is, however, in many of these cases, another cause operating so as to produce the same result. The patient has been lying for a long time in bed without any particular attention being paid to the position in which he has placed himself, and this position has probably been that of lying on one side with the spine twisted laterally. The lateral curvature thus produced of course continues to exist when the patient first begins to stand and walk. Now of these two kinds of curvature the first is evidently irremediable; but the latter

admits of considerable, and perhaps of complete, relief, under a simple mode of treatment, which I shall explain to you hereafter.

There is a peculiar paralytic affection to which children are liable, and which I have in my lectures been accustomed to describe under the name of *infantile paralysis.* The child (generally after suffering from an attack of fever,) exhibits symptoms of what is commonly called "determination of blood," to the brain and not improbably has an attack of convulsions. Then, all at once the muscles of some part of the body lose their power of acting under the influence of the will. In a few cases, recourse being immediately had to the exhibition of mercury, the paralysis is relieved. In the majority of cases it is not relieved at all, but remains unaltered through the rest of the patient's life. Now, if this has happened in one of the lower limbs, you need only refer to the observations which I made in the beginning of the lecture to be satisfied that a lateral curvature of the spine must be the consequence. One lower limb will support the weight of the body, the other will not support it: one limb is heavier than the other, and one limb only is exercised. The pelvis under these circumstances must become depressed on one side more than on the other, and a lateral inclination of the spine will follow depression of the pelvis. In some instances all the muscles of the leg and thigh are paralytic, and the whole of the lower limb is useless to the patient. In other cases perhaps not more than one or two muscles are thus affected, and the curvature of the spine varies accordingly.

In a very few of such cases, where the paralysis is of limited extent, the application of an instrument which in some degree supplies the place of the muscles whose power is deficient may be useful in assisting the patient to retain the erect posture. In other cases, where, in consequence of the want of power in the antagonist muscles those of the calf of the leg are contracted, the heel being elevated so that it cannot be brought into contact with the ground, some good may be done by the subcutaneous division of the *tendo Achillis.* But the advantage obtained in either of these ways is of limited extent, and beyond what I have just mentioned nothing is to be expected from the exercise of our art.

The effect of paralysis on the figure of the spine is not confined to those cases in which the seat of the paralysis is in the lower limbs. Even a *partial* loss of power in the muscles of one of the upper limbs will, in a growing person, become a cause of spinal curvature, and in one case which fell under my observation, in which there had been, from infancy, a complete paralysis of *all* the muscles of the arm, forearm, and hand, the spine was as much distorted as it would have been in a case of recovery from diseased hip-joint with a very contracted limb. The distortion here is to be attributed to the difference in the weight of the two limbs, and the greater muscular action on the side opposite to that of the disease, combining to draw the centre of gravity out of the middle line of the body. Of course the case is beyond the reach of remedies. Nothing can restore the spine to its proper condition but the removal of the paralysis, a thing rarely to

be accomplished, even when you are consulted in the first instance, and of which there certainly can be no reasonable expectation at that later period when the attention of the parent is first called to the alteration of the patient's figure.

Another cause of lateral curvature of the spine is a difference in the capacity of the two sides of the chest. Hypertrophy of the heart, or a diminution in the size of one lung, will produce the same effect. I was consulted concerning a little girl in whom there was an unusual degree of this kind of distortion. On examination I found that she breathed with one lung only, and that the other side of the chest was reduced to a very small size, the ribs lying almost in contact with each other. The fact proved to be, that, two or three years before the period of my being consulted, she had suffered from a severe attack of pneumonia, in consequence of which the organization of one lung had been completely destroyed, so as to render it altogether useless, respiration being performed wholly by the other. Some mechanical apparatus had been recommended in this case with a view to relieve the spinal curvature; but I need scarcely explain to you why neither this nor any other kind of treatment can, under such circumstances, be of the smallest service.

It was the prevailing opinion formerly, and I believe that some hold the opinion still, that the common cause of a lateral curvature of the spine is a rickety condition of the bones. This view of the pathology of the disease is, however, not confirmed by the specimens preserved in museums of morbid anatomy, and no one who has seen much of these cases in the living person can doubt that the fact is otherwise. The altered shape of rickety bones, in which there is, as you well know, a deficiency of hard earthy matter (phosphate of lime) depends partly on the action of the muscles, but still more on the operation of the superincumbent weight. The greater the weight the greater is the distortion. Hence in a rickety child the disease is manifested first in the legs, then in the thighs, then in the pelvis, and afterwards in the spine. Now, in cases of lateral curvature of the spine, it rarely happens that there is anything like the rickety flexure of the lower limbs. In the rickety pelvis the two *ossa pubis* are as it were squeezed towards each other both behind and below the symphysis. The form of the brim of the pelvis is altered, the diameter of it being diminished in the direction from before backwards, and increased from side to side. One result of such distortion of the pelvis is, that parturition, at the full period of utero-gestation, is rendered either difficult or impossible. Nevertheless we meet with instances without number of women with very considerable lateral curvature of the spine who have born children with as little inconvenience as others whose spines were straight.

We are not, therefore, justified in regarding rickets as the common, or even as a frequent cause of spinal curvature: nevertheless, it is the cause of it in a few instances. The curvature in these cases is, for the most part, not merely lateral, but there is a bending of the lower part of the spine forward, so that the spinous processes project

posteriorly in the form of a segment of a circle. This circumstance, and the condition of the legs and thighs, afford sufficient grounds for our diagnosis.

What is to be said as to the treatment of this variety of distorted spine may be comprised in a few words, and will be more conveniently introduced here than in any other place. I know of no reason why the treatment of the rickety affection of the spine should be different from that of the rickety affection of the legs and thighs. Of this last I see a great number of cases. In a large proportion of them, heavy instruments of steel have been already applied, with a view to reduce the curvature. In others the same thing has been recommended either by instrument makers or surgeons, but the machinery has not yet been applied. Now what is the effect of this mode of treatment? The original curvature is probably removed, but in order that this object should be attained, the instrument must make pressure on at least two points, one in the limb above, and the other in the limb below, and at each of these points a curvature is produced which did not exist before, so that there is simply an exchange of one curvature for two others. Then the instruments are a great weight and encumbrance to the child. He cannot drag them about so as to take such an amount of exercise as is necessary for the maintenance of the general health. They harass and torment him; and as they are always liable to break, and be otherwise out of repair, they are an endless trouble and expense to the parents. There is only one form of the disease in which, according to my experience, the use of instruments is at all justifiable, and that is one of very rare occurrence, in which the flexure is confined to the superior epiphysis of the tibia, the tibia below the epiphysis being bent outwards, making an angle more or less obtuse with the femur, so that the sole of the foot is with difficulty placed on the ground. With this single exception, I have not seen a single case of rickety curvature of the lower limbs, in which, if the health could be improved, and the general vigour of the system maintained, the curvature did not disappear spontaneously without any kind of local treatment being had recourse to; while, on the other hand, under a continuance of bad health, every kind of local treatment has been ineffectual. I generally recommend that the child should live in the country rather than in a crowded city; that he should be as much as possible at the sea-side; that he should take some preparation of iron from time to time, the bowels being at the same time carefully regulated: that he should use a shower-bath every morning, cold in summer, with the chill taken off in winter; and that he should live on a plain but nutritious diet. In the early part of my practice I advised that he should be encouraged to crawl on the floor rather than to use his feet, and that instead of running about out of doors he should be taken into the fresh air in an open carriage. I am now convinced that this advice was wrong; that the general health cannot be maintained without exercise; that the more the limbs are used the better chance is there of the necessary quantity of phosphate of lime being deposited in the

bones; and that as the bones become harder so will they most certainly regain their proper figure, in spite of the weight which they have to sustain. Even in what might be termed a bad case of rickety affection of the limbs, three or four years, and in slighter cases a still shorter period, will generally be sufficient for this beneficial change to be brought about. From what I have already said, you may be aware that I have a more limited experience of rickety disease as it exists in the spine than as it exists in the extremities; but nevertheless I have seen enough of it to be satisfied that the plan of treatment which is the best adapted in the one case is also the best adapted to the other.—*Lon. Med. Jour.*

On the Nature and Sources of the Contents of the Fœtal Stomach, being the substance of a Paper communicated to the Royal Society of London, in June last. By George Robinson, M. D., Fellow of the Royal Medical and Chirurgical Society of London, and Joint Lecturer on Materia Medica and Forensic Medicine in the Newcastle-on Tyne Medical School.—Whilst all physiologists who have examined the appearances presented by the alimentary canal of the fœtus, agree in representing *the small intestines* as actively engaged in the function of digestion, a remarkable difference of opinion has prevailed as to the source of the nutritious matter there submitted to that process. Harvey, who, of modern physiologists, alone supposes it to enter the intestine through the stomach, adopts the views of the older writers, and concludes, from his observations, that it is the liquor amnii swallowed by the fœtus, which affords the material for chylification. Geoffroy Saint-Hilaire, perceiving the anatomical objection to this doctrine, which arises from the fact of similar appearances have been found in the intestinal canal of fœtuses born with an imperforate œsophagus, would seem to suppose that the superior portion of the intestines, being irritated by its contact with the bile, secretes a nutritive mucus, by the digestion of which chyle is formed. And Dr. Robert Lee, who is, I believe, the most recent investigator of this subject, has been led by his researches to the conclusion that the liver is the source of the nutritious fluid found in the alimentary canal of the fœtus; the function of that gland being, in his opinion, not merely that of separating from the blood an excrementitious substance, but also that of pouring into the fœtal intestines, through the hepatic duct, a quantity of albuminous fluid.

Now, even though a quantity of albumen may be present in the bile taken from the hepatic duct, it is surely desirable that the impossibility of the nutritive contents of the small intestine having been derived from the fœtal stomach should be clearly demonstrated, before we admit the correctness of this latter conclusion as to their source. But it will be seen by a reference both to systematic writers, and to the authors who have more expressedly treated of the fœtal functions, that the evidence yet advanced is by no means sufficient to establish any positive opinion on this point.

Dr. Lee thus describes the result of his own examination of the stomach in several human fœtuses: "The stomach of the fœtus I usually found in these cases distended with a semi-transparent, ropy, mucous, and occasionally acescent fluid without any sensible admixture of albuminous or other apparently nutritious matter." Dr. Blundell, whose opinions on any point connected with the uterine or fœtal functions I consider to be worthy of every attention, has but the following brief allusion to the subject: "The stomach of the fœtus is not unfrequently empty, or nearly so; and when it does contain anything, if I may judge from some two or three observations, this matter consists of a mucous secretion mixed with the gastric juice." And in the systematic works on physiology, I do not perceive any mention of the subject further than an incidental statement that the fœtal stomach contains a mucous fluid. The time which I could myself devote to this inquiry, and my opportunities for conducting it, have been too limited to enable me to attempt anything like a full and final settlement of the various questions connected with this department of fœtal physiology. The few facts which have fallen under my notice are, however, sufficiently distinct to establish some positive inferences, and I can only hope that the results of this rude effort may induce others better qualified for the investigation to extend and complete our knowledge of this interesting group of functions.

My attention was first attracted to the subject in the autumn of last year, by an accidental observation of the stomach of a fœtal rabbit, and having subsequently examined the fœtuses of other animals, I met with a number of curious facts, of which the following is a brief account.

Observation 1. During the last ten days of its uterine existence, the stomach of the fœtal rabbit is invariably distended with a semi-transparent fluid, of a dark green colour, extremely viscid, and coagulating by heat into a solid opaque mass. Viewed microscopically, it is found to consist of a clear liquid, suspended in which are numerous cells of different shapes, and several large globules of oil. When heated in a watch glass over a spirit lamp, it assumes the appearance of a piece of baked custard; and on dropping it into boiling water, it also instantly solidifies. Dried by a more gentle heat, it forms a brittle substance like gum, which, on being dissolved in water, answers to every test of albumen. A small quantity of the fresh liquid which had been excluded from the air in a test tube, on being examined at the end of six months, though it had acquired a disagreeable odour, was found to retain all its chemical properties, coagulating as readily as when recently obtained. The stomach was in these cases extremely pale, and presented very little vascularity; whereas the small intestines were plentifully supplied with blood-vessels. The chymous substance which the latter contained, was evidently derived from the stomach, becoming however more opaque, as it gradually assumed the situation of the meconium. This latter substance, of a bright green colour, exhibited a curious reaction with strong nitric acid, the addition of a few drops of the latter instantly causing it to assume a bright scarlet hue.

In three instances, a liquid, precisely resembling that contained in the stomach, escaped from the mouth of the animal as it lay on its side before being opened; and in two other cases, the same substance was found in the œsophagus. The liquor amnii of these animals is a transparent, almost colourless fluid, exhibiting scarcely any indication of the presence of albumen. In two instances where I had an opportunity of watching the fœtus through the transparent membranes, it was observed to swallow the liquor amnii, and from its continuing to perform the act of deglutition after its removal from the uterus, the stomach was found extremely distended with air, each mouthful of which appearing as a little vesicle, was preserved distinct by the viscidity of the stomachic fluid. The facts detailed in this observation are drawn from the examination of more than thirty animals.

Observation 2. The uterus of a rabbit, killed about the *tenth day* after impregnation, contained six fœtuses, an inch and a half in length, and the tissues of which were still very gelatinous. Through the transparent walls of the abdomen, the dark globular stomach of each was distinctly visible, and on opening the peritoneal cavity, it constituted, with the exception of the liver, the most prominent object presented to the eye, being in every case distended with a liquid of a dark green colour. This fluid was perfectly transparent, *presented no microscopical object, was not at all viscid, and did not undergo any change on the application of heat or nitric acid.*

The intestines were in these animals extremely minute and tortuous, translucent, and almost void of meconium, or any other coloured substance. The quantity of liquor amnii was greater than that met with in the former observations, and its opacity, on the application of the tests for albumen, if anything rather more distinct.

Observation 3. In a fœtal lamb examined at a very early period (for its weight did not exceed two ounces,) the stomach contained two drachms of a clear, citron-coloured liquid, which was neither viscid, nor did it present any opacity or change on the application of heat and nitric acid. The quantity of liquor amnii was relatively large; six ounces of it were collected, and in its colour, consistence, and chemical properties, it precisely resembled the fluid obtained from the fœtal stomach. The intestines were very minute and tortuous, and with the exception of a small quantity of serous fluid, apparently empty.

Observation 4. In another fœtal lamb which was fully developed and ready for birth, the stomach, on being opened, presented a substance differing very much from the liquid just described. It contained an ounce of a viscid, transparent semifluid mass, suspended in which and gradually subsiding in it, so as to form a sediment, were numerous minute, oval, brown particles, in shape and colour very much resembling grains of linseed, but somewhat larger, and around each of them was a quantity of an extremely tenacious, gelatinous substance of a yellow colour. Neither the supernatant liquid nor the liquor amnii evinced the presence of albumen, though both possessed considerable viscidity. A substance precisely similar to the yellow

gelatinous sediment found within the stomach, existed in considerable quantities upon the fleece, the legs, and the whole exterior of the animal; *but on the most careful examination I could not detect in any other part of the fœtal structures or appendages, a single particle corresponding to the brown oval masses met with in the stomach.*

The intestines, in addition to some meconium, contained a chymous mass, the liquid portion of which was distinctly albuminous.

Observation 5. The liquor amnii of a fœtal calf, (which was examined at a very early period, when its body weighed only nine ounces) was of a citron colour, neither viscid nor coagulable by heat or nitric acid, but instantly formed an opaque membranous coagulum on the addition of a little acetate of lead, or proto-nitrate of mercury. The stomach of the same animal contained two drachms of a fluid, which in every respect resembled the liquor amnii, and which, on standing, did not present any sediment or coloured flocculi. In the intestine was a small quantity of meconium, which, on being heated with nitric acid, exhibited the usual change of colour, from a green to a reddish hue.

Observation 6. In another fœtal calf of considerable size, (presumed to be in the ninth month of uterine existence, and which was examined twelve hours after death,) the stomach contained four ounces of a yellow glairy fluid, in which, as it lay in the stomachic cavity, were suspended three or four fibrinous masses of a dark, brown colour. On allowing these matters to stand for some hours in a cylindrical glass vessel, the quantity of the coagulum or sediment was very much increased, so that its bulk ultimately became equal to the tenth part of that of the supernatant liquid. This latter was slightly opaque from the presence in it of innumerable minute globules, resembling those formed during the coagulation of albumen, and though extremely viscid, it furnished no coagulum on the application of heat and nitric acid singly and in conjunction, the only effect produced being the gradual formation of a pellicle on its surface as the liquor evaporated. Of a few other tests which were applied, sulphuric and muriatic acids caused no change whatever in the appearance of the fluid; ferro-cyanide of potassium, assisted with acetic acid, tincture of galls, sulphate of copper and alum, slightly increased its opacity, and the addition of a drop of solution of acetate of lead or proto-nitrate of mercury, was instantly followed by the appearance of an opaque membranous coagulum.

Imbedded in the coagulum or sediment, which was of a reddish brown colour and semi-transparent, were several thin yellow scales, perfectly opaque, and insoluble in boiling liquor potassæ, whereas the remainder of the fibrinous mass readily dissolved in that liquid. From the clear solution thus obtained, copious flakes were produced on its neutralization by muriatic acid.

In the mouth of this animal was found some glairy fluid, very similar to that met with in the stomach; and lying on the outer surface of the gums, particularly those of the lower jaw, were several of the peculiar yellow flakes just described.

The liquor amnii was clear, almost colourless, and, though somewhat viscid, did not with the usual tests afford any indication of albumen, being coagulated only by acetate of lead and proto-nitrate of mercury. *It contained none of the matters which constituted the coagula found in the stomachic fluid.**

Observation 7. The stomachs of two newly born kittens contained a brown, semi-transparent, viscid substance, which, on the application of heat or nitric acid, evinced the presence in it of a considerable quantity of albumen, but did not wholly coagulate. The portion which retained its transparency did not, however, manifest any disposition to dissolve in the boiling water. The contents of the small intestine were also albuminous.

In the œsophagus and fauces of one of these animals was found some of the same brown, viscid, semi-albuminous substances; and it may also be worthy of mention, that the quantity present in the stomach of this animal (which had lived a few hours after birth) was much less than in the other case.

Observation 8.—In each of two puppies, drowned immediately after birth, the stomach contained about half an ounce of a transparent, slightly viscid fluid, suspended in which were several large flakes of a light yellow or lemon colour, each flake being surrounded by an extremely tenacious gelatinous substance. On testing the clear supernatant liquid, it was found to be distinctly albuminous, an opaque stratum of coagula being deposited on the application of heat and nitric acid. A portion of one of the flakes and the adjacent mucus being examined under a high magnifying power, presented, in addition to epithelial scales and some oil globules, several minute particles of different shapes, a few appearing as perfect circles or rings, others of a crescentic form, and the remainder as rhomboidal and linear particles.

Observation 9.—The stomach of a human fœtus of about the fifth month, examined thirty hours after birth, was found moderately distended. On laying it open, a reddish coloured fluid escaped, and this was followed by three or four semi-transparent gelatinous masses. The largest of these was then placed in a watch-glass containing distilled water, and heat applied. As the temperature of the water approached the boiling point, numerous flakes were seen to radiate from the floating body; and as the process of ebullition proceeded, this latter became throughout its whole substance, firm and opaque, so as to constitute a perfect coagulum. Another mass was treated with nitric acid, and wherever the latter came in contact with it, an instantaneous coagulation took place. The contents of the small intestines were

* A quantity of the peculiar milky fluid, secreted by the spongy structures which receive the highly vascular fœtal cotyledons, and collected from them by pressure, on being heated, instantly coagulated into a firm mass. With the single exception of its colour being rather that of cream, than a distinct yellow, this substance precisely resembled the coagulum obtained by heating the contents of the stomach, of the mature fœtal rabbit. And in its chemical and nutritive properties this secretion presents a striking analogy to the colostrum furnished to the animal immediately after birth. The secretion of these structures was, in the mature fœtal lamb, also found to possess a similar property.

arranged in separate portions, in the order of their proximity to the stomach; and the liquid pervading them, on the addition of the same test, also evinced the presence of albumen, the relative quantity of this principle gradually decreasing as the chymous mass assumed the properties of meconium. My friend Dr. Glover was present at this observation, and kindly assisted me in its performance.

Observation 10.—The stomach of an infant, supposed to have died immediately after birth, but which was not examined till about forty hours afterwards, contained half an ounce of a remarkably viscid, reddish, semifluid substance, for the most part transparent, but presenting in its interior and on its surface, several opaque white striæ. On boiling a portion in distilled water, it became uniformly opaque, but did not acquire much additional firmness. Heated with strong nitric acid, a clear solution was obtained, from which, on its neutralization by liquor ammoniæ, a copious flaky deposit took place; and the same circumstance occurred with an alkaline solution, when rendered neutral by the addition of nitric acid. The white striæ were of a fatty nature, as evinced both by their chemical properties and microscopical appearance, being chiefly constituted of fat cells. A transparent viscid substance contained epithelial scales, oval nucleated cells, and a diffused granular matter. This substance could be traced into the duodenum, where it gradually became more opaque, and evidently constituted the material for chymification.

From all these facts, we may, I think, draw the following general conclusions:—

1. That the stomach of the fœtus, during the latter period of its uterine existence, invariably contains a peculiar substance, differing from the liquor amnii, and generally of a nutritious nature.

2. That in its physical and chemical properties, this substance varies very much in different animals, being in no two species precisely similar.

3. That in each fœtal animal the contents of the stomach vary much at different periods; in the earlier stages of its development, consisting chiefly of liquor amnii, to which the other peculiar matters are gradually added.

4. That the liquor amnii continues to be swallowed by the fœtus up to the time of birth; and consequently after the formation of those matters, and their appearance in the stomach.

5. That the mixture of this more solid and nutritious substance with the liquor amnii constitutes the material submitted to the process of chymification in the fœtal intestines.

The opinion that the fœtal chyle is principally formed from these matters, however, by no means implies a supposition that the *nutrition* of the fœtus is thus accomplished. For the actions which proceed in the chylopoietic viscera of the fœtus are, I imagine, chiefly useful from their gradually preparing the different organs for the important functions assigned to them in the economy of the mature animal. Whereas the nutrition of the fœtus is undoubtedly effected by its placental vessels, the venous capillaries of which (or to speak more correctly,

the streams traversing them) possess an absorbing power precisely similar to that of the mesenteric veins. And as a portion of the fœtal blood, charged with the albuminous substance there absorbed, after passing through the umbilical vein, circulates in the blood-vessels of the liver, the presence of an albuminous fluid in the hepatic duct, as noticed by Drs. Lee and Prout, is by no means inexplicable. Viewed in this light, the umbilical vein of the fœtus will answer to the mesenteric veins of the adult, while the ramifications of the hepatic duct, in addition to their ordinary functions, may be considered as to a certain extent representing the lacteals.

The source of the peculiar substances found in the stomach of the fœtus still, however, remains to be determined. That they are not secreted by the stomach itself is, I think, rendered almost certain, by the uniformly pale, undeveloped condition of that viscus during fœtal life, and by the circumstance of their being occasionally met with in the fauces and mouth of the animal, as in observations 1, 6, and 7. And coupling this latter fact with the negative argument constituted by the impossibility of assigning their productions to any other organs, I am disposed to regard them as the secretion of *the salivary glands*, between the development of which and the gradual formation of these matters a certain degree of connection has appeared to me to exist.

Having thus briefly mentioned the facts met with in the course of this investigation, and indicated the conclusions which appeared to me to flow most directly from the consideration of those phenomena, I shall for the present abstain from any further inquiries into this department of physiology. But, before concluding this communication, I may be permitted to relate one or two additional observations, which tend to establish an interesting and important relation between two of the chief functions in the animal economy, viz. respiration and digestion.

I have before had occasion to corroborate, from my own observation, the statements of other inquirers as to the slight vascularity and torpid condition of the stomach during fœtal life. It became, therefore, an interesting problem to trace the gradual development of its digestive power, and to ascertain the precise period at which the effect of this power became perceptible.

The contents of the fœtal stomach were, in several of the foregoing observations, tested by litmus paper with very different results, the gastric fluid being in some cases neutral, sometimes alkaline, and in a few instances feebly acid. As the tissues and fluids of the fœtus, however, always manifest a strong tendency to acescent decomposition, and as the indication of acidity was generally noticed in cases where some delay had taken place in the examination of the gastric contents, I am not prepared to deny the possibility of this acescency having been the result of chemical changes taking place after death. A far more satisfactory test of the presence of the proper gastric juice, and consequently of the commencement of its digestive function by the stomach, was, I thought, to be found in the chemical action of that secretion upon albuminous fluids. And, as a liquid readily coagulating

upon the application of all the common tests for albumen exists naturally in the stomach of the mature fœtal rabbit, a few observations upon these animals, performed at different periods after birth, promised to throw some light upon the subject.

Observation 11.—Two rabbits from the same litter were examined at the end of thirty hours after birth. In one (which from the appearance of the lungs, had evidently respired, but which was found dead within a few hours after the presumed time of birth,) the stomach, both as regards its vascularity and the nature of its contents, precisely resembled that of the advanced fœtus of the same species. Its coats were pale, and the blood-vessels distributed through them scarcely perceptible; while the substance within exhibited all its usual properties, being the same green, transparent, viscid, semi-fluid, coagulable mass as that invariably met with in the mature fœtus.

But the stomach and its contents in the other rabbit (which, though separated from the doe, had lived up to the moment of examination) presented a very different appearance. Its coats were beautifully injected with innumerable blood-vessels, and their thickness was apparently increased; whilst in its interior was *a large flattened coagulum of a greenish-yellow colour*, possessed of considerable tenacity, and exhibiting in its substance, when viewed microscopically, several oil globules, similar to those noticed in the uncoagulated matter.

Nothing could be more striking than the difference between these two stomachs; and, from a single positive observation like this, we are, I think, justified in concluding, that the formation of the gastric juice does not take place till the act of respiration has proceeded for a certain length of time, and rendered the oxygenation of the blood tolerably complete. In two other rabbits, killed at the end of twenty-four hours after birth, the albuminous contents of the stomach were similarly coagulated, its coats being also highly vascular, and a portion of the same green coagula being found in the duodenum. All these animals were removed from the doe before any milk could have been swallowed. In the following observation the young animal was allowed to feed with the rest.

Observation 12.—A young rabbit being killed the third day after birth, was instantly examined. The coats of the stomach, which was very much distended with food, were highly vascular, so as to assume a rosy tint. It contained a great mass of coagulated milk, in the midst of which, and rendered conspicuous by the snow-white ground on which they were placed, appeared two half-digested coagula, of a dark greenish-brown colour. These were evidently the remains of the fœtal secretion; and, in the duodenum of the same animal, at the distance of two inches from the stomach, were several small acicular particles of a fatty nature.—*London and Ed. Monthly Journ. Med. Science.*

Fungus tumour of the Bones By Professor Roux.—A man aged thirty-eight, of a strong constitution, was lately admitted into the Hotel Dieu, for the treatment of a tumour, which had formed three

months since in the right knee. At the beginning of the disease he made, on two occasions, a violent effort with the limb, and each time a very painful sense of distention was experienced in the joint. On examination two tumours were distinguished, one on either side of the tuberosity of the tibia; pressure reduced them to a certain degree, and at all times they were the seat of pulsations synchronous to the pulse. The skin had retained its natural colour, and the patient complained only of weakness of the extremity.

After relating the case, the Professor proceeded to state that this tumour should be considered as an aneurismal affection, occupying the spongy texture of the head of the tibia. "This," continued M. Roux, "is an uncommon disease, or at least one which authors have seldom described. Fifteen or eighteen cases at most are on record. For my part, during an experience of thirty years of hospital practice, I have met only with three or four, the last of which I observed not more than two years ago; a complete cure was obtained by ligature of the femoral artery."

These tumours are almost constantly found in the bones of the extremities, particularly the lower, and in the parts which contain a greater quantity of spongy texture. The tibia is most usually occupied. An external injury, a blow, or a sprain, seems to have produced it in every instance, although it certainly is not easy to understand what influence external causes can have on the aneurismal developement of the arterial capillaries of a bone; still the fact is one confirmed by too frequent observations to admit of doubt. In a case related by M. Lallemand, a rheumatic or gouty predisposition seemed to have caused the malady; and in a most interesting observation of Scarpa, the same predisposition is stated to have existed. In the present case it was after a violent effort to raise a carriage that the patient first experienced pain in the part, and it was also an effort of the same kind which produced the disorder in the patient he observed about two years ago. In one patient you may remark that the internal layers of the bone have been gradually absorbed, and that the fungous areolar growth lies immediately under the skin, forming irregularities in the outward aspect of the limb. Under the name of "angiectasy" we comprise only the diseases of any part of the vascular system attended with dilatation of the vessels, and this great class may be subdivided according to the seat of the alteration in large vessels or in the capillaries. To the former belongs the history of aneurism; to the latter, the tumours of the nature of that which has occasioned this lecture. Fungous tumours of the capillary vessels may be met with in the soft textures or in the bones, and when they occupy the latter seat, they are not only remarkable on account of their unfrequency, but also by some other circumstances, which we will briefly enumerate. In the first place we observe that sanguineous tumours of the soft parts are generally prognosticated by the presence of nævi, whereas in the bones we have no reason to suppose that the developement of the disease is anything but accidental. A proof that a congenital disposition has little or nothing to do with

the aneurismal dilatation of the osseous capillaries may be found in the fact that in most cases external injuries have been the producing causes. Another material difference resides in the fact, that these tumours occupy indiscriminately the arterial or venous capillaries in the soft parts, and exclusively the arterial system of bones. A cancerous cement not unfrequently is superadded to the vascular transformation, and when this unfortunate complication is observed, the fatal result of organic disease are produced even before abundant hemorrhage could supervene. You are aware gentlemen, that, for the treatment of these erectile tumours of the soft parts, numerous methods are employed, and particularly within the last few years the progress of the art of curing has been, in this respect, truly remarkable. We recollect that twenty-five years ago, amputation was freqnently considered as the only resource in cases which now-a-days would obtain relief by a great many plans, differing with circumstances, and with surgeons. Ligature, pressure, cauterization, puncture—simple, or combined with the application of heat or of electricity: such are the principal methods of treatment which would be resorted to.

As to fungous tumours of the bones, we know only of three operations by which a cure can be obtained:—ligature of the main artery of the limb, amputation of the extremity, and, in some few instances, resection of the portion of bone occupied by the malady. Ligature we prefer, in the present instance, for reasons which we will expose in another lecture.—*London Medical Times.*

Two Cases of Rupture of the Uterus—Recovery of One.—M. Robiquet was called to attend, in labour, a female, ætat. 32, who had previously had one child, and had never suffered under any symptoms of uterine disease; the present, her second pregnancy, had gone on favouiably until about two hours before M. R.'s visit, when during a strong uterine contraction she felt something suddenly give way within her. It seemed to her as if her bowels had been torn, but soon an apparent calm succeeded this painful sensation.

On M. R.'s entrance he found the patient's countenance flushed, her skin moist, pulse 90, small and thready, respiration slow but regular; she had acute pain in the abdomen, with the sensation as of a weight rolling about in the middle of the belly and crushing the intestines, the uterine contractions were few and transient. The abdomen, depressed and irregular, had lost its rounded form, and permitted the limbs of the fœtus to be distinctly felt, and easily laid hold of through its parietes; and the child swayed from right to left, according to the movements of the patient. On vaginal examination, the head of the fœtus was felt at the uterine orifice. This latter circumstance induced M. R. to wait a short time, but finding that the powers of the mother were being rapidly exhausted, he applied forceps and extracted a female child, which lived only a few minutes. Scarcely was the fœtus expelled, when a soft rose-coloured slightly inflamed mass projected from the vagina and hung down between the thighs

of the patient; this was at once recognized as part of the small intestine and the epiploon. M. R. at once returned the intestinal mass into the vagina, and gently pushed it onward to the fundus of the uterus, in which, rather to the right side of that organ, he found an opening large enough to admit his hand to pass through easily. Having at length with some difficulty returned the whole intestinal mass through the wound, he passed his right hand through the laceration so as to cover its aperture, while with his left, externally, he used frictions over the hypogastric region, with a view of inducing uterine contraction, and for the same object fifteen grains of ergot were administered. After a lapse of two or three minutes, M. R. felt the edges of the wound to approach, and the body of the uterus to make some efforts at contraction. After a second contraction had considerably diminished the diameter of the laceration, M. R. gently drew his hand out of the wound into the cavity of the uterus, and applied it to the inner surface of the rupture, to prevent any projection of the intestines through the opening. A second dose of ergot had been previously administered, and in a short time the uterus contracted so powerfully that he was compelled to withdraw his hand from its cavity. A dangerous attack of metro-peritonitis followed, which was successfully treated in the usual manner. Symptoms of inflammation of the uterus continuing on the second day after delivery, M. R. introduced two fingers into its cavity, and finding a small knuckle of intestine protruding, he successfully effected its reduction. From this time the patient gradually improved, and was at length restored to complete health.

Second Case.—The following recently came under the notice of M. Dubois at the *Clinique d'Accouchements*:—The patient, ætat. 32, arrived at the termination of her third pregnancy, without any unfavourable symptoms. On the 9th June labour set in with pains, feeble, and recurring at long intervals. On the following day the membranes ruptured, accompanied with trifling hemorrhage; the labour pains ceased, and were replaced by continued and intermitting pain. The medical attendants, being ignorant of the true cause of the cessation of uterine contractions, administered ergot, in order to restore them. At noon of the same day the os uteri was completely dilated, the fœtal head resting at the brim, but no attempt was made at artificial delivery; at six in the evening she was carried to the *Clinique* in the following condition:—There was general lividity of the surface of the body; the features were contracted, and the radial pulse imperceptible. M. Dubois was called, and at first supposed that the patient laboured under cholera; but, having heard an account of the case, immediately recognized it as an example of rupture of the uterus. On applying the stethoscope the child was found to be dead; forceps might have been applied, but M. Dubois declined to interfere under the circumstances of the case, on the ground that any interference would have hastened the patient's dissolution, and would uselessly compromise the obstetrical art in the eyes of the public, who are always disposed to judge wrongly: the patient died in a few minutes

after. On examining the body after death, an extensive rent was found in the right side of the uterus, reaching from the orifice of the organ to the round ligament, passing through the entire thickness of the substance of the uterus, but leaving its peritoneal tunic quite uninjured. In both of the preceding cases the rupture was spontaneous, and not the result of ill-directed mechanical interference. We must therefore admit, says the reporter of the cases, an organic predisposition to laceration of the uterus, which is probably nothing else than an inflammatory softening of its tissue. In both of the cases, too, the rupture was in the right side of the uterus, instead of in its anterior surface, as it is more generally observed. We agree with the reporter, in thinking that M. Dubois' motive for non-interference, viz. "a fear of public opinion, which is always wrong," is, more especially in one of his reputation and experience, a very ridiculous, and possibly a highly dangerous, guide in practice.—*Monthly Jour. of Med. Science, from Journ de Med. et de Chirurg.*

Prolapsus of the Vagina, Laceration of the Unimpregnated Uterus, and Protrusion of the Uterus.—In the preceding page there has been recorded a case of laceration of the gravid uterus, with protrusion of the intestines through the rent, and the following case is an example of a similar injury in the unimpregnated condition. The patient was 60 years of age, and had borne seven children; she suffered under prolapsus of the vagina, and having never applied for medical advice, nor adopted any remedial measures, the affection proceeded from bad to worse; the sense of weight and dragging in the hypogastric region, the tenesmus, and dysuria became so severe, that she, by degrees, found herself less able to maintain the erect position, and was ultimately compelled to rest her head constantly upon her knees. On the 12th October, M. le Chaptois was called to her assistance; upon entering the room he was struck by the fetid cadaverous odour which exhaled from the bed in which the patient lay, in a state of profound prostration. An enormous mass of small and large intestines had protruded through the uterus, which was torn and dragged down by the mass; the womb was everted, and hung between the thighs like the finger of a glove; near the angle of the right Fallopian tube there was a laceration of nearly four inches in length, which had given passage to the intestinal mass. The patient had, for some hours, been speechless; the pulse was small and weak, and she was, to all appearance, moribund. M. le Chaptois, notwithstanding her desperate condition, having carefully washed and cleansed the viscera returned them with his hand into the pelvic cavity; they were then maintained in their place by the introduction of a sponge into the vagina. During the succeeding night the patient vomited frequently, and suffered from convulsions; but, after the bowels had been freely moved, an amelioration took place, and the case proceeded to a favourable termination.—*Ibid from Ibid.*

On the Constitution and Functions of the Cervix Uteri. By M. NEGRIER.—The following are the most important conclusions which M. N. draws from his investigations. The superior orifice of the cervix endeavours to contract powerfully the instant that the dilating body, whether the ovum or the fœtal head, has passed out of it; the superior orifice alone may oppose an obstacle to delivery, it alone may incarcerate the placenta, whereas the inferior orifice, when it has been fully and slowly dilated, returns to its ordinary size after a considerable time, and gradually. In females who are delivered for the first time, the orifices of the cervix contract before the walls of its cavity; and in women who have been delivered more than once, the lips of the external orifice close more slowly than the cavity of the cervix; and in all women the parietes of the cervix are thrown into folds from above downwards. These perpendicular folds result from the closure of the superior orifice, and are not entirely effaced even ten days after delivery. In cervical implantation of the placenta, M. N. seems to prefer plugging far before any other mode of treament. —*Ibid, from Arch. Gen. de Med.*

Chinese ideas respecting the Anatomy of the Circulating System.— The heart is figured low in the thorax, is considered a single cavity, and the reservoir of good things; it has little active connection, none that can be traced with the general circulation. From above, the windpipe passes directly into it; while from below, the tube of a second, elective stomach, connected with the first, recipient stomach, by some kind of conduit, enters it at nearly the same point with the windpipe. Short work is thus made with the complicated and mysterious process of assimilation. One vessel proceeds from the heart to the liver, and another descending along the course of the spine, after communication by a broad reservoir-like expansion, with the kidneys, *it is presumed*, terminates in the genitals. There is, besides, a double canal, connecting the heart at a point near its apex, with the tube last noticed. But what all those things mean, and what part, if any, the heart acts in propelling the blood, the professor who was asked to explain what appeared in the plate, failed to show. Chinese notions regarded the circulating system, as on most other subjects, are peculiar to themselves, and differ entirely from those entertained by European physiologists, anterior to the time of Harvey and Servetus. In this, as in other vital actions, they introduce the sexual system. They have some idea of difference between arteries and veins, but what it is, and what offices they assign to each, could not be ascertained.

The arteries are said to be male and female. Of the former, three, belonging to the hand, proceed from it to the head; while three, belonging to the foot, originate in the hand, whence they descend to their proper place. On the other hand, three female arteries proceed from the bowels to the hand, to which they belong; and three, belonging to the foot, originate there, and then proceed to the intestines.

Besides these vessels, there is the pulse artery, which moves with every respiration three inches, and performs its circuit in two minutes. The chief concern of the doctor is the study of this artery, that he may clearly understand, and accurately unfold its manifold meanings; for in so much as he has skill to read its language accurately, by so much is he excellent as a practitioner. From it, besides the temperament of the patient, he deduces the diagnostic character of the disease he is called to treat, after which, having settled the kind and degree of disorder which has arisen among the elements, he sets manfully to work, and boldly promises a cure, knowing, what is not peculiar to China, that the man who promises most in medicine is most followed.

The veins are said to circulate day and night, but it does not appear that they believe the motion to be onward and in a circle: for they say, that having arrived at the end, it again commences where it left off. Nor do they admit that the arteries and veins have any connection; for they allege that all the arteries and veins have their respective cavities, twelve in all, such as the liver and heart, from which they proceed, and corresponding places where they end; and that, throughout the body, there are paths, ducts, and channels, distinct and appropriate to each, so that the blood does not meet with obstruction in its passage, though why it passes, and by what mechanism, does not appear.

The heart is said to be the ruler, from which the spirits proceed; it is also held to be the receptacle of marrow, which comes from the brain, and goes to the reproductive organs. The lungs are vehicles by which the temper is regulated. The liver holds the place of a general, whence proceeds contrivances and orders. The bile acts as umpire, settling disputed points. The spleen performs the part of messenger, and is the fountain of joy—a function not before ascribed to it, but to which it has as good a title as to be considered the seat of ill-humour and despondency. The stomach is the granery of the body, and the governor of the five tastes. The great duct is the promoter of principles, and the operator of changes; the smaller ones being the receptacles of superfluity, where digestion is carried on. The kidneys are the rulers of strength, whence all skill proceeds. The bladder, having no connection with the kidneys, is the general reservoir of the absorbents.—*Wilson's Med. Notes on China.*

Nasty Notices.—A foreigner looking over the English newspapers must think the people for whom they are printed, the nastiest on the face of the earth. No language, however gross, indelicate, offensive, or disgusting, is considered unsuited to the eyes polite which scan the contents of the "usual channels of information." At the head of the columns appears the "doctor's" book-advertisement on costiveness, with all its evils embellished with words and expressions suited to the subject, and to it alone; then the instrument-maker's flourish of syringes, operative vases, fountains, and other delicate contrivances; and at the end, the plumber's announcement of water-closets, stationary and portable. This is no fanciful picture. We see it every day. But

the abomination is not consummated until the fistula-curer closes up the march, and here he is with the Lord Mayor and all his merry men in his train:—

"*Infirmary for Fistula.*—A deputation from the Fistula Infirmary, consisting of Mr. John Masterman, M. P., treasurer, the Rev. Dr. Vivian, chairman of the committee of management, Mr. Frederick Salmon, honorary surgeon, and Mr. William Carter, the secretary of the charity, waited yesterday on the right Hon. the Lord Mayor, to request his lordship's acceptance of the presidency of the infirmary for the ensuing year. The deputation was received by his lordship with the greatest courtesy, who expressed his desire to further the interests of the institution in every possible way, and fixed Monday, April the 19ht, for the anniversary festival of the institution, at which he signified his intention to preside."

The *quid nunc* family of Cockneyland is at present all in an uproar of most amiable indignation against the horrid Irish, who will not starve quietly; and words can scarcely be found sufficiently strong to express the contempt entertained for Hibernian delinquencies; but we challenge the greatest advocate of Saxon refinement to match the above paragraph in Celtic barbarity. Just let us picture to ourselves the Lord Mayor of Dublin seated in state to receive a deputation headed by one of the city members ushering in a fistula-curer to bespeak his lordship's patronage and custom; and soliciting the first municipal officer of the city to "accept the presidency" of his filthy "institution!" Such a thing could not take place amongst us, or if it did, we should not at all events have it thus blazoned forth.—*Dub. Med. Press.*

Lithotrity—Statistics by M. Civiale.—From the year 1836 to 1845, M. Civiale has applied his method in 266 cases, with success in 259 patients, a few of which obtained only partial relief. In seventy-nine instances M. Civiale considered that the operation of crushing presented no chance of success, and refused to operate. Lithotomy was performed on twenty-eight, and seventeen recovered.

The statistics laid before the academy, at various periods, show that 582 patients have been operated upon by the author; and the tables point out distinctly this remarkable fact, that three-fourths of calculous patients who present themselves now-a-days, for treatment, are operated upon by the method of crushing.—*Lon. Med. Times.*

New York Pathological Society, January 27th, 1847.

Dr. Wood exhibited a *polypus uteri* which he had removed by ligature from a woman in whom it had existed for nine years. It was about the size of a Vergaloo pear, and hung by a well defined pedicle from the fundus. Several fibrous tumours were attached to other parts of the uterus, appreciable by the hand externally applied, varying in size from that of a marble to that of the fist. In three days after the application of the ligature, the polypus came away without hæmor-

rhage; it had lost nearly half of its bulk. Confirmatory of his previously expressed opinion, Dr. W. had found this polypus, as he had others, supplied by one large artery in the pedicle; this gave off other small ones. It was difficult to secure arteries after their section in all fibrous tissues, as room, owing to their elasticity, is not given for the hold of the ligature beyond the tenaculum. He had attempted it, unsuccessfully, upon this specimen. Hence the great danger of *excising* these growths, which he considered a bad and hazardous practice. He exhibited an instrument well adapted to the purpose of ligating polypi, and, coinciding with Dr. Montgomery in the belief of the identity of the three forms of uterine fibrous tumours, and his condemnation of the knife, strongly recommended the perusal of his late valuable paper on the subject of this disease. Dr. W. stated further, that he had recently confined a woman, whose child (a female) when five weeks old, weighed two and a quarter pounds. It was born in the seventh month, and for two weeks did not nurse. It is now doing well.

Dr. Van Buren exhibited the parts taken from a patient with *aneurism of the femoral artery, and communication of the artery and vein.* The gentleman was twenty-one; he had been wounded two and a half years ago in an affray, with a pistol ball, which entered below the ant. sup. spinous process of the ilium, traversed the front of the thigh, and came out on the inside of the symphysis, under the skin. At the moment, much hæmorrhage ensued, arrested by pressure. He recovered entirely in six weeks; on getting about, he discovered a pulsating tumour in the middle of the thigh, three inches below Poupart's ligament. When examined, on his arrival here, it was irregular and ill-defined, three or four inches in circumference, and over it, *a very unusually distinct thrill* could be felt. The tumour was in contact with Poupart's ligament. The external iliac artery was tied by Professor Mott on the 16th of December, and on the 22d he died, gangrene having extended over the whole limb, commencing at the foot. The operation was ill borne; severe pain was felt at the moment of tightening the ligature for several minutes, followed by numbness of the whole limb; soon after he had pain and oppression at the heart. Next day there was much agitation, with oppression about the chest and pain in the belly, and the temperature of the limb was eight or nine degrees lower than that of the opposite side. The pulse was never as full as before, after the operation.

Post mortem (which was difficult on account of the state of the parts.) A little lymph upon the peritoneum around the wound, not affecting that of the adjacent intestines. The ligature was applied about one and a quarter inches above the circumflexa and epigastric arteries, and a clot of about an inch in length above it. The artery began to be atheromatous just below Poupart's ligament. A true aneurism communicated with the artery just above the origin of the arteria profunda, a little larger in size than a partridge egg, and of a regular oval shape like a pouch, having a small jug-like neck, and containing coagula formed before the ligature of the artery. It was enveloped by gristly

cellular tissue. Immediately under the sac, and blended with it, was the anterior crural nerve, much larger than natural in appearance, from thickening, probably, of its cellular neurilemma.

The vein along side was healthy, but thickened, and the cellular tissue at this point, infiltrated and indurated. ***Just here existed a communication between the vein and artery.*** A little cyst of bony shell was attached to the surface of the vein, just where the saphena dips into it.

The case Dr. V. B. believed to be unique; *an aneurismal varix, and a true aneurism* of the femoral artery. The large quantity of indurated cellular tissue above the disease, and the exaggerated thrill gave the idea of a much larger aneurism than really existed. The injury done to the artery had caused disease of its coats and aneurism. There was also decided hypertrophy of the heart, with induration of its tissue; no ossific deposits. Each cavity contained a polypus, quite white and apparently formed before death. Dr. V. B. said that a patient operated on by Mr. Ramsden, with subclavian aneurism, went on well for some days, with slight oppression of the heart, and died suddenly. A polypus existed in the descending vena cava, depending into the right auricle, which acted as a valve and caused death. Hence, he inferred, that there might be something in the ligating of large arteries, which led to this condition. The heart, in Dr. M.'s patient, beat very irregularly after the operation and intermitted.—*N. Y. Annalist.*

A Notice of the Grayson Springs. By Lunsford P. Yandell, M. D.—The present proprietor of the Grayson Springs, in the summer of 1833, learning that quite a number of infirm people had gone to them in the woods, and were encamped about them in tents, was induced to purchase and improve them. It seems that, many years ago, they acquired, by some accident, a reputation for curative virtues, and this they have continued to enjoy. On a visit to the springs last summer, I met with a large company of invalids, and learned from many of them that they had not been disappointed in their hopes of renovated health from the use of the waters. I saw some lodged in hired cottages, near the springs, who were not able to pay for board at a tavern, and had brought with them their beds, provisions, and cooking utensils—a fact which testifies to the strong popular faith in the efficacy of these springs.

The springs, issuing within an acre of ground, are five in number, and, although differing in temperature, and slightly in taste, contain essentially the same ingredients. The Rock spring is the coldest; the Stump spring is so warm as to be unpalatable, and its water is chiefly used to supply the bath-house. The water of the Centre, Moreman, and McAtee springs has a pleasant temperature. Of these the latter is perhaps the favorite fountain. It takes its name from an early visiter, a lady, whose health is said to have been restored by the use of its waters.

The following are the ingredients found in these springs:

Sulphuretted hydrogen,
Carbonic acid,
Carbonate of magnesia,
Carbonate of lime,
Carbonate of iron,
Sulphate of magnesia,
Sulphate of lime.

Sulphuretted hydrogen is the most characteristic constituent of the waters, and, with the carbonic acid, renders them light. The first effect of drinking them is an increase of perspiration ; the bowels are generally gently moved, and the appetite and powers of digestion improved. To generalize, the action of the Grayson springs may be said to be gently tonic, laxative, and alterative.

These springs occur in a different formation from the other noted mineral springs of Kentucky ; as they also differ materially from most of them in their constitution. Sulphate of magnesia is the most prominent ingredient in the Harrodsburg springs, which is recognised by its bitter taste ; and although the same article is found in the Grayson springs it is in too minute a quantity to affect the taste of the water, which is sweetish. The Blue, Bigbone, and Drennon's Licks, the Olympian and Paroquet springs, all abound in common salt, which is absent from the waters of Grayson. They all, except the Olympian, occur in the Blue Limestone, the oldest of our fossiliferous rocks ; the Grayson springs are found in the Carboniferous limestone, immediately below the coal series. The stratum from which they issue is the same in which the Mammoth Cave occurs,—the *Pentremital* or uppermost layer of the most recent of our limestone rocks. In this rock, in the immediate vicinity of the springs, Pentremites, Archimides, and many new and most beautiful species of Encrinites, are found. The locality is one of exceeding interest to the geologist.

Louisville, Jan. 26th, 1847. *Western Journal.*

Western Schools.—From the numerous medical schools in the Valley of the Lakes and Mississippi, we have received the official reports of only two. The Medical Department of the Western Reserve College, established three or four years ago at Cleveland, Ohio, gives in its catalogue two hundred and sixteen names ; which is a remarkable growth. The Medical College, of Ohio, at Cincinnati, has reported to the Legislature one hundred and seventy, as its number.

The other Ohio school, Willoughby University, which for ten or twelve years has been established at a village near Cleveland, is, as we perceive, by an act of the Legislature, to be transferred to Columbus, the seat of government of that State. Its Faculty will, as one of the Professors lately informed us, be there re-organised, when we shall give the names of its professors. We do not know the number of its present class.--*Ibid.*